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ABSTRACT

An Advisory Committee on Nursing Education, established to examine the supply of and demand for registered nurses in Alabama, was charged with: (1) continuing the development of a projection model for the supply and demand (including a determination of the proper mix of nurses prepared at the baccalaureate, associate, diploma, and practical levels); (2) conducting a review of existing nursing programs; and (3) considering the racial/ethnic minority mix of registered and practical nurses. A shortage of active and practicing registered nurses in 1984 is projected, but an adequate supply of active and practicing licensed practical nurses is assumed. The legal responsibilities of the Alabama Board of Higher Education and the Board of Nursing are identified and differentiated, including those dealing with program review and certification. Findings on the passing rate of the nursing licensing exam are presented. It is shown that data are incomplete for racial/ethnic minority comparisons in nursing. The committee recommends that the Alabama Board of Nursing support and utilize existing programs rather than establish new ones to meet future demands and that data be developed on racial/ethnic mix of nurses. An historical review of nursing in Alabama is included. (PJM)

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# Nursing Education in Alabama: Supply and Demand, Quality of Programs and Minority Representation

## Alabama Commission on Higher Education

# NURSING EDUCATION IN ALABAMA:
# SUPPLY AND DEMAND,
# QUALITY OF PROGRAMS,
# AND MINORITY REPRESENTATION

MONTGOMERY, ALABAMA
NOVEMBER 14, 1980

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# COMMISSION ACTION

The Advisory Committee on Nursing Education presented this report to the Alabama Commission on Higher Education on November 14, 1980. After listening to the Advisory Committee's presentation as well as comments from other interested parties, the Commission voted unanimously to adopt the report.

Space will not permit the Commission to personally thank every individual who participated and assisted in this study. Obviously, each member of the Advisory Committee on Nursing Education has made valuable contributions. Success of the study, however, has been due in large part to the leadership of Chairperson Diane Dransfield and Vice-Chairperson Mable Lamb.

Several other individuals and groups also deserve special recognition. The staff of the Alabama Board of Nursing, particularly Miss Betty Tomlin and Miss Shirley Dykes, provided the majority of data in the report. The Board staff was always eager to furnish information and advice to the Advisory Committee and is commended for its good work. In addition, Ms. Edie Kitchens was a valuable resource person to the Advisory Committee, particularly with respect to the history of nursing education in Alabama. A special thanks is also extended to Mr. Frank Williford in the Office of Health Planning at the State Health Planning and Development Agency. Mr. Williford assisted the Advisory Committee in obtaining much of the background data on hospitals which was required to run the model. Also, many personal thanks go to Mr. Rick Courson in Data Systems Management of the state of Alabama who devoted much time and patience to helping the Commission staff understand and run the model.

There is one other recognition that should be made. Throughout the course of the study, there were numerous occasions when the Advisory Committee required information that could only be provided by the deans, directors, and coordinators of the nursing programs. These individuals cooperated with the Commission staff in every way and made an effort to respond to survey requests in a timely fashion. To this group of professionals, the Commission is indebted.

Many other nursing leaders throughout the State provided input and advice to the Commission staff and Advisory Committee. To all who assisted with this project, the Commission on Higher Education extends sincere appreciation.

November 14, 1980

To the Members of the Alabama Commission
on Higher Education

Transmitted herewith is the final report of the Advisory Committee on Nursing Education. The Advisory Committee is confident that this report contains a wealth of information to assist you in making policy decisions affecting nursing education. Each member of the Advisory Committee is committed to quality education and practice in the nursing profession, and this commitment is reflected throughout the report.

We appreciate this opportunity to help plan for the future. An advisory committee such as ours is essential for effective and responsible planning for nursing, and we encourage you to continue making use of such a group.

Sincerely,

Diane Dransfield

Diane Dransfield
Chairperson
Advisory Committee
on Nursing Education

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# CHAPTER I

## SUMMARY OF FINDINGS AND RECOMMENDATIONS

In the fall of 1977, the Alabama Commission on Higher Education appointed an Advisory Committee on Nursing Education for the purpose of examining the supply of and demand for registered nurses in Alabama. The Commission staff identified a computer model developed in the state of Virginia to use in determining the supply and demand and proceeded to substitute Alabama data into the model. Results of the Virginia model were inconclusive, however, and at its meeting on December 9, 1977, the Commission issued three specific charges to the Committee:

Charge 1: Continue the development of a projection model for determining the supply of and demand for registered and practical nurses in Alabama. Determine the proper mix of nurses prepared at the baccalaureate, associate, diploma, and practical levels.

Charge 2: Conduct a review of existing nursing programs.

Charge 3: Consider the racial/ethnic minority mix of registered and practical nurses.

In examining the supply and demand, the Committee used a projection model developed jointly by the Western Interstate Commission for Higher Education and the National Center for Higher Education Management Systems, commonly referred to as the WICHE model. The Committee held twelve meetings between December 1977 and June 1980, and the Draft Subcommittee met six times between December 1979 and

September 1980. A summary of the findings and recommendations of the Advisory Committee is now given; however, the reader is encouraged to study the entire report and not limit any review to this section only.

## Findings

Based on data presented in this report, the Advisory Committee on Nursing Education finds:

### Charge 1

1. That there will be a shortage of active and practicing RNs in 1984. The greatest undersupply will be at the baccalaureate and higher degree levels.

2. That there will be a more than adequate supply of active and practicing LPNs in 1984.

### Charge 2

1. That by law the Alabama Commission on Higher Education and the Alabama Board of Nursing are charged with a similar function--that of evaluating new and existing nursing programs.

2. That the Board of Nursing's review applies only to practical and basic programs.

3. That the Commission on Higher Education's review covers programs at all levels in postsecondary institutions which are funded by state appropriations.

4. That the Board of Nursing has established and recognized criteria for reviewing new and existing practical and basic nursing programs.

5. That the statewide passage rate on the licensing exam for RN candidates in recent years has been 75-80 percent on the first

writing; however, the passage rate for LPNs has been considerably higher.

6. That the Board of Nursing has begun to release and publish the mean score and passage rates on the licensing exam of all nursing programs.

7. That locating programs in underserved areas throughout the State in and of itself may not solve the problems of maldistribution of nurses for any long period of time.

8. That public institutions operate under defined role and scope categories which determine program areas and degree levels appropriate for the institutions to offer.

9. That 32 of the 34 basic nursing programs are eligible for accreditation by the National League for Nursing. Of the eligible basic programs, 66 percent are accredited. However, this percentage varies considerably by program level: 90 percent of the eligible baccalaureate, 44 percent of the eligible associate, and 100 percent of the eligible diploma programs are accredited. At this time, all practical nursing programs are eligible to apply for accreditation, but no practical nursing programs are accredited.

10. That accreditation is an expensive, but invaluable process for a nursing program to undertake.

### Charge 3

1. That existing data on the racial/ethnic minority representation is incomplete for nursing students as well as registered and practical nurses in Alabama.

### Recommendations

Based on its findings, the Advisory Committee on Nursing Education recommends:

Charge 1

1. That the current and projected problems related to nurse manpower, i.e., shortages and maldistribution of RNs and the distribution of RNs by levels of preparation, be met by:

a. Suporting existing quality programs for nurses prepared at the practical, diploma, associate, baccalaureate, master's, and doctoral levels;

b. Utilizing resources in existing programs in preference to establishing new nursing programs. In such cases where new programs are proposed in public institutions, the programs should not be approved unless they meet all program review criteria of the Alabama Commission on Higher Education and the Alabama Board of Nursing. Where programs are proposed in private institutions, the programs should not be approved unless they meet all program review criteria of the Alabama Board of Nursing;

c. Recognizing that the shortage of nurses is the responsibility of the health care system as well as the educational system, it is recommended that the Alabama Hospital Association set as a goal the attraction of 10 percent of the 3,000 inactive RNs back into the hospital setting. Further, it is also recommended that the Alabama Hospital Association, whose members are the primary employers of RNs and LPNs, conduct a study which addresses what hospitals in Alabama are doing to retain active RNs as well as to attract inactive RNs back into the work force. This study should be completed by December 1981 with results disseminated throughout the State;

d. Making a concerted effort, on the part of the educational and health care systems, to facilitate nursing career counseling for recruitment and for educational mobility;

e. Increasing enrollment in baccalaureate and higher degree nursing programs by strengthening existing programs;

f. Developing a statewide plan for providing educational mobility in existing nursing programs which will encourage LPNs and RNs to seek further education. This statewide plan should address program accessibility, articulation, programming, funding, and financial assistance for students.

## Charge 2

### To the Alabama Commission on Higher Education and the Alabama Board of Nursing

1. That in the review of new and existing programs, the Commission on Higher Education and the Board of Nursing continue to work cooperatively in eliminating duplication of efforts and providing mutual support to assure quality nursing programs in Alabama. The Board of Nursing should have primary responsibility for reviewing the quality of practical and basic nursing programs. The Commission on Higher Education should expand on the Board of Nursing's review and should also cover graduate level nursing programs.

2. That the cooperative review of nursing programs by the Commission on Higher Education and the Board of Nursing be evaluated in 1985 for adequacy and effectiveness.

### To the Alabama Board of Nursing

1. That the Board of Nursing continue to release and publish the mean scores and passage rates of all nursing programs on the licensing exams.

2. That copies of the Board of Nursing's program evaluations be shared with the Commission on Higher Education.

3. That the following criteria be strengthened or expanded in the Board of Nursing's criteria for evaluating basic and practical nursing programs:

a. The overall ratio of full-time faculty to nursing students in the professional component of the nursing program should not exceed 1:10. In the clinical setting, the ratio of full-time faculty to students should not exceed 1:10. This ratio should be lower in selected clinical settings and will depend upon the level of the student within the program.

b. The educational preparation of the faculty should be as follows:

| | Type of Program | | | |
|---|---|---|---|---|
| | LPN | DIPL | ADN | BSN |
| Educational Prep. of Faculty | 75% MSN<br>25% BSN | 10% PHD*<br>90% MSN | 10% PHD*<br>90% MSN | 25% PHD*<br>75% MSN |

* Doctoral Preparation (i.e., Ph.D., Ed.D., DSN)

c. Clinical facilities and resources should:

(1) Be within reasonable traveling time from the program site;

(2) Be available to meet the stated objectives for clinical experience of the nursing program;

(3) Be utilized only by as many programs as can be accommodated without compromising safety and quality of care.

d. Practical and basic nursing programs should achieve an 85 percent or above passage rate or attain the national mean on the State Board Test Pool Examination (SBTPE).

e. Each nursing program should have written admission standards.

To the Alabama Commission on Higher Education

1. That the following criteria be used in the cooperative review of nursing programs with the Board of Nursing:

   a. Assess the need for the program;

   b. Evaluate the efficiency of the program;

   c. Determine whether an educational institution, within its role and scope, has the appropriate resources for providing a nursing program.

To the Nursing Programs in Alabama

1. That all nursing programs be accredited by the National League for Nursing.

## Charge 3

1. That the Board of Nursing make every effort to improve its data base related to the racial/ethnic minority background of all licensed nursing professionals.

2. That the Commission on Higher Education develop methods of determining the racial/ethnic minority background of nursing students and graduates.

3. That in future data collection and analyses, the Commission on Higher Education include male representation when considering minority mix in nursing.

## General Recommendations

1. That a permanent Advisory Committee on Nursing Education be established to advise the Commission on Higher Education on all matters related to nursing education. Every effort will be made to insure that the Advisory Committee is geographically representative of the State. Membership of this committee will be limited to one represen-

tative from the following groups/organizations/agencies.

Committee Members

ADN Educator/Junior College System
Alabama Board of Nursing/Board Member/RN
Alabama League for Nursing/RN
Alabama Medical Society
Alabama Nursing Home Association
Alabama Society for Nursing Service Administrators/RN
Alabama State Nurses' Association
BSN Educator
Bureau of Public Health Nursing
Diploma Educator
Graduate Educator in Nursing
Hospital Administrator
Licensed Practical Nurses' Association of Alabama, Inc.
LPN Association of Alabama
LPN Educator
Nursing Service Administrator

Resource Consultants

Alabama Board of Nursing/staff
Alabama Hospital Association/staff
Alabama State Nurses' Association/staff
State Health Planning and Development Agency/staff
Postsecondary Education Services/staff

Other resource consultants may be invited to the meetings depending on the content of the agenda.

Although there are other groups which might seek representation on this Advisory Committee, it is recommended that the membership total not go beyond 20 members, excluding Resource Consultants, so that a cohesive, working relationship can be maintained. Additionally, it is recommended that some degree of continuity in membership be sought. The Advisory Committee should meet semiannually unless it is necessary to hold special meetings. It is further recommended that any charge from the Commission on Higher Education to this Advisory Committee on Nursing Education be accompanied by the necessary funds to carry out the charge.

2. That this study of nursing education be reassessed and reevaluated in 1985 by the Commission on Higher Education and the Advisory Committee on Nursing Education.

# CHAPTER II

# AN HISTORICAL PERSPECTIVE OF NURSING

## Nursing Education to 1950

Formal education for nurses in the United States began after the shortcomings of traditional untrained volunteers were exposed by the mass casualties of the Civil War. After the War, the newly founded Nightingale Schools of London served as models for this country's first schools of nursing. The first nurse training school in the United States opened in 1872 at the New England Hospital for Women and Children in Boston. It was followed in 1873 by Bellevue Hospital in New York, Massachusetts General Hospital in Boston, and Connecticut Training School in New Haven.

These first nurse training schools were commonly hospital-based, apprenticeship programs composed of one year of theory combined with extensive practice on the job. Applicants met few criteria and little emphasis was placed on educational preparation prior to or during the students' training. Instead, hospitals with nursing schools exploited students to carry the load of nursing care provided to hospitalized patients. After a year of vocational training in a hospital, most nurses left the institutional setting for individual service as private duty nurses in the community.

By 1900, the number of nursing schools had risen to more than 200,[1] and almost all programs had increased in length to three years. Also by this time, it was common practice to issue a diploma as a credential of success, giving rise to the popular term "diploma school." The heavy service orientation continued, however, and curricula included only six months of classroom instruction with the remaining thirty months spent in clinical service in hosptial wards.[2]

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[1] Phillip A. Kalisch and Beatrice J. Kalisch, The Advance of American Nursing (Boston: Little, Brown and Company, 1978), p. 195.

With increasing urbanization and the liberation of women, the number of nursing schools in the United States rose dramatically in the two decades after 1900, so that by 1920 there were 1,755 nursing schools across the nation.[3] Nursing leaders became increasingly concerned about the absence of regulations and standards governing the rapidly burgeoning schools, and a drive to ensure control of the practice of nursing through licensure began shortly after 1900. By 1920, all states except Nevada had passed nurse practice acts which provided for licensure of nurses by state agencies. There acts regulated nursing by defining the practice of nursing itself and by delineating the hours of theory and practice to be completed before the student could write the licensing examination. Graduates who passed state examinations were then registered as licensed RNs, certified to work anywhere within the State. Alabama implemented nurse licensure when the Alabama Legislature passed the Nurse Practice Act of 1915 (House Bill 198).[4] This act created the Board of Nurse Examiners, provided for examination of candidates for licensure, and specified criteria for training schools and licenses.

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[2] Esther L. Brown, Nursing for the Future (New York: Russell Sage Foundation, 1948), p. 49.

[3] Kalisch and Kalisch, The Advance of American Nursing, p. 329.

[4] Laurene S. Gilmore, "A Study of the Development of Nursing Education in Alabama" (Master's Thesis, University of Alabama, 1956), p. 111. Henceforth cited as Gilmore, "Nursing Education in Alabama to 1956."

The first school of nursing in Alabama was established in 1891 by Booker T. Washington at Tuskegee Institute. Students were admitted for regular academic training, i.e. high school courses, and then declared nursing as the occupational major. In 1912, the program began operating in conjunction with the John Andrew Hospital as a diploma program and offered black students their only opportunity for professional nursing education during the era of segregation.[5] After the establishment of the nursing school at Tuskegee Institute, Alabama experienced rapid growth of nurse training schools. In 1903, the United States Bureau of Education listed four Alabama schools: Tuskegee Institute (John A. Andrew Training School for Nurses), Tuskegee; Alabama Bryce Insane Hospital Training School, Tuscaloosa; St. Vincent Hospital Training School, Birmingham; and Hillman Hospital Training School for Nurses, Birmingham.[6] The number of schools in Alabama increased at a phenomenal rate over the next three decades: twenty new schools were established between 1904 and 1915, thirty-one were added from 1916 to 1923, and an additional twenty-six schools were inaugurated between 1924 and 1933.[7] Some of these schools failed to thrive, but the number of training schools in the State reached a peak in 1928 with fifty schools approved by the Alabama Board of Nurse Examiners; it was the largest number of programs approved at any one time in the State's history. Since that time, however, the total number of Alabama diploma schools has declined. During the years between 1929 and 1934, for example, twenty-six training schools closed because of financial difficulties or because they did not meet Board of Nursing standards. By mid-century, the number of three-year schools of nursing in Alabama had dwindled to thirteen,[8] and later dropped to eleven in 1958.

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[5] "Report for Continuing Accreditation: Historical Statement for the School of Nursing," Tuskegee Institute, November 1963 (mimeographed), pp. 3-4.

[6] Gilmore, "Nursing Education in Alabama to 1956," pp. 21-22.

[7] Ibid, p. 30.

Hospital diploma programs continued to supply the nation's nurses well into the 1950s, even though the concept of educating nurses in a university setting had been postulated before the turn of the twentieth century. A college course designed to prepare diploma nursing graduates for careers in schools of nursing or administrative positions in hospitals was offered at Teacher's College, Columbia University, as early as 1899, but it was 1909 before the first nurse training school at a university was inaugurated. This pioneer program at the University of Minnesota was three years in length and offered a diploma rather than a baccalaureate degree.

By the 1920s, a few universities had combined academic and vocational nursing curricula leading either to a diploma after three years or a baccalaureate degree after four or five years, but few students chose the degree option. Although baccalaureate nursing programs shifted nurse education from hospital to academe, the emphasis of education in university schools continued to be on service. There were fewer baccalaureate nursing institutions and graduates than diploma nursing schools during the first half of the twentieth century. Many of the students who entered baccalaureate programs were diploma graduates whose ambition was to teach in schools of nursing or to hold administrative positions in hospitals. Thus, baccalaureate programs served primarily as post-diploma school education for nursing education and leadership positions.

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[8] Ibid, pp. 22-32.

As late as 1949, Alabama had no public baccalaureate nursing programs through which students could prepare for teaching and administrative positions. However, black students were enrolled in the State's first private baccalaureate program in Tuskegee Institute in 1948. Perhaps because of the absence of advanced educational opportunities, Alabama nursing leaders became increasingly concerned about the shortage of qualified faculty in the State's nursing schools and the deleterious effects of this shortage on the quality of nursing education. Nurses in the State urged that a study be done to ". . . determine the need for a school of nursing at the University of Alabama and to make recommendations concerning the development of such a school if one be needed."[9]

The investigation, conducted by Margaret Carrington, was undertaken in 1948, and the first of nine recommendations at the conclusion of the report stated that ". . . a school of nursing should be created as an autonomous unit in the University of Alabama on the same basis as other professional schools."[10] Subsequently, the Alabama State Nurses' Association composed and worked for passage of the 1949 bill which created a collegiate school of nursing in the University of Alabama.

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[9] Margaret Carrington, "A Survey of the Needs of Educational Facilities for Nurses in Alabama and a Proposed Plan for a University School of Nursing," Montgomery, AL, November 1948 (mimeographed), p. 44.

[10] Ibid, p. 44.

Alabama's first state-supported baccalaureate nursing program admitted students in 1950, but in the era of segregation, it admitted only white students.

Because the number of nurses supplied by traditional nursing programs was insufficient to meet the needs of the nation's sick, another level of health care worker, the practical nurse, was introduced during the early 1900s. For the most part, practical nurses received on-the-job training and cared for patients under the direction of a licensed physician or a registered professional nurse. Educational standards were limited, and there was considerable variation in these workers' titles, in the range of duties they were prepared to perform and in the educational requirements for their training.[11]

The first school established for the training of practical nurses was organized in 1897, but initial growth of these programs was relatively slow.[12] Prior to 1947, only thirty-six practical nursing schools had developed across the entire nation. Between 1948 and 1954, however, over 300 additional programs were opened.[13]

An act which provided for examination, licensing, and regulation of practical nurses was passed by the Alabama Legislature in 1945.[14] The law also permitted individuals with three year's experience in the care of the sick to be licensed by waiver until June 1947.[15] By 1948,

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[11] Kalisch and Kalisch, The Advance of American Nursing, p. 505.

[12] Ibid.

[13] Kalisch and Kalisch, The Advance of American Nursing, p. 505.

[14] Alabama State Nurses' Association, Nursing Resources in Alabama (Montgomery, AL: Alabama State Nurses' Association, 1958), p. 12.

[15] Ibid.

684 practical nurses had been licensed under the waiver provision.[16]

The 1945 practical nurse licensure act created a need for nursing programs to educate practical nurses. Within three years of the 1945 act, four practical nurse training programs had been established in the State. Two of these programs were in the Birmingham Public School System and two were in state vocational schools at Dothan and Wenoah.

The "Carrington Report" of 1948 projected shortages of non-professional workers during the coming years. Soon after the report appeared, the State Department of Education sought and received a three-year grant from the Kellogg Foundation to ". . . improve clinical and classroom facilities in the four existing programs and to develop five new centers in carefully selected areas of the State."[17] The ultimate goal of the project was the ". . . improvement of patient care throughout Alabama."[18] This was to be accomplished by training qualified persons to perform those nursing tasks which were within the scope of non-professional activities. The expectation was that licensed practical nurses would eventually replace the untrained workers who had been, and were then, giving nursing care.

## Major Studies to 1950

At various times during the first half of the twentieth century, concern over the state of nursing education and nursing practice provoked national studies and surveys. These studies primarily concerned identifying ways to improve the quality of nursing education, securing nursing's role in the educational system, and determining nursing's responsibility to society. Because of their relevance to this study and to nursing's present status as well as to its past, the results of two of the most important studies, the "Goldmark Report" and the "Brown Report", are presented.

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[16] Alabama State Department of Education, Report of Practical Nurse Education to W. K. Kellogg Foundation (Montgomery, AL, 1954), p. 7.

[17] Ibid., p. 5.

[18] Ibid.

The first major effort to evaluate nursing education in the United States was a study conducted by a Committee for the Study of Nursing Education funded by the Rockefeller Foundation. The committee's findings were reported in 1923 in Nursing and Nursing Education in the United States, more frequently referred to as the "Goldmark Report." This report pointed out that most of the nurse training schools in existence at that time compared unfavorably with those schools producing other professionals. It recommended ". . . the establishment of university schools of nursing to train nurse leaders . . ."[19] and the separation of nursing education from apprenticeship training. Although the Goldmark Report did not cause sweeping changes in nursing education in the United States, it did lead to the development of the first independent baccalaureate nursing program. One year after the Report was released, the Rockefeller Foundation awarded Yale University a grant which made possible in 1929 the establishment of the world's first autonomous university school of nursing with its own dean and separate budget.[20]

In 1946, Esther Lucile Brown, an anthropologist with the Russell Sage Foundation, conducted a study for the National Nursing Council to determine ". . . who should organize, administer, and finance professional schools of nursing."[21] Dr. Brown evaluated nursing service and nursing education in terms of what was best for society rather than what was best for the profession of nursing. Among the Brown Report recommendations was the momentous one that ". . . preparation of the professional nurse belongs squarely within the institution of higher learning."[22] Other recommendations were ". . . that appropriate nursing bodies initiate planning on a statewide basis for the distribution of the kinds of {nursing} schools that are designed to meet stated needs,[23] and that basic schools of nursing {be organized} in universities and colleges . . . that are sound in organizational and financial structure, adequate in facilities and {appropriately prepared} faculty."[24] For the most part, these recommendations remain unfulfilled in Alabama and perhaps in other states as well. Other recommendations included in the Brown Report concerned accreditation of nursing education programs and the need for broad public support of accredited schools.

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[19] Kalisch and Kalisch, The Advance of American Nursing, p. 334.

[20] Ibid., p. 339.

## Nursing Education 1950 to Present

With the emergence of an active program of accreditation by the National League for Nursing (NLN) in the early 1950s, a new kind of diploma program with greater emphasis on education began to emerge. According to Matheny, although development was slow, the new schools were ". . . characterized by moves toward a shortened program, stronger criteria for accreditation that strengthened educational control of student practice, and the extensive use of colleges for the provision of college level courses in general education."[25]

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[21] Brown. Nursing for the Future, p. 10.

[22] Ibid., p. 188.

[23] Ibid., p. 136.

[24] Ibid., p. 178.

By 1958, Alabama's diploma programs began to reflect the efforts that had been made to improve the quality of nursing education in the State. At that time, six of the eleven existing diploma programs were accredited by the National Nursing Accrediting Service.[26] The existing programs had not been able to keep pace with the increasing demand for nurses, however. A survey conducted in 1957 verified the proverbial nurse shortage, showing that while the national ratio of nurses to population was 259 per 100,000, Alabama lagged far behind with 132 per 100,000.[27] In 1968, Alabama's ratio had increased to 158 RNs per 100,000 population, but it still remained far below the national average of 298 per 100,000.[28]

Between 1958 and 1968, the percentage of Alabama nurses with degrees was also extremely low. In 1968, only 8 to 9 percent of Alabama nurses had bachelor's degrees and 1 percent held master's degrees or above.[29] The impact of this dearth of degree nurses was felt keenly by schools of nursing because of the difficulty in securing qualified faculty. As late as 1957, 5 percent of nurse educators had no education beyond that received in their basic schools of nursing, 40 percent had bachelor's degrees and 19 percent had master's degrees.[30]

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[25] Faye Abdellah, et. al., New Directions in Patient-Centered Nursing (New York: The MacMillan Company, 1973), p. 154.

[26] Alabama State Nurses' Association, Nursing Resources in Alabama, p. 14.

[27] Ibid., p. 20.

[28] Margaret J. Koehler, comp., Assessment of Nursing Education in Alabama, 1968 (Montgomery, AL: Alabama Board of Nursing, 1968), p. 6.

[29] Koehler, Assessment of Nursing Education in Alabama, 1968, p. 21.

During the 1950s, the need for graduate prepared nurse administrators and consultants, as well as teachers, became more apparent. In order to meet this need, the University of Alabama School of Nursing worked closely with the Southern Regional Education Board between 1953 and 1955 to organize and establish Alabama's first graduate program in nursing. The program opened in 1956 and remained the only one in the State until the University of Alabama in Huntsville opened its master's program in 1978.

The number of baccalaureate nursing programs in Alabama remained static between 1950 and 1968. The schools of nursing at Tuskegee Institute and the University of Alabama continued to provide the only opportunities for baccalaureate nursing education. Also, in 1967, the University of Alabama School of Nursing moved from the Tuscaloosa campus to Birmingham and the School of Nursing became a component of the University of Alabama System.

In 1965, the American Nurses' Association (ANA) issued "Educational Preparation for Nurse Practitioners and Assistants to Nurses: A Position Paper." This Position Paper included the following statements delineating the ANA's stance on the education of professional nurses:

> The education for all those who are licensed to practice nursing should take place in institutions of higher learning.
>
> The minimum preparation for beginning professional nursing practice at the present time should be baccalaureate degree education in nursing.[31]

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[30] Alabama State Nurses' Association, Nursing Resources in Alabama, p. 20.

[31] "American Nurses' Association: First Position Paper on Education for Nursing," American Journal of Nursing, 65 (December 1965), pp. 106-11.

For the most part, Alabama nursing leaders supported the ANA's position on nursing education as the appropriate path of the future but were concerned because Alabama had no master plan for this dramatic transformation of past practices. As a consequence of this concern, one year after the ANA Position Paper appeared, the Council of Directors of Schools of Nursing recommended that a study of nursing educational needs and clinical facilities in Alabama be undertaken. This study was launched in 1967, and the findings were reported in Assessment of Nursing Education in Alabama in 1968. Among other things, the study concluded:

> That extreme caution be exercised in the planning for and establishment of schools of nursing in areas which offer limited clinical facilities for nursing education and where community environment is not conducive to faculty recruitment.
>
> That sufficient funds be appropriated by the state legislature and sought from other sources for existing master's, baccalaureate, and associate degree programs in order to strengthen them before new programs are established or those presently proposed are implemented.[32]

Despite these recommendations, five new baccalaureate programs were inaugurated in public universities across the State, and another established in a private institution within the next seven years. These baccalaureate programs and the dates they received legislative approval and funding were: the Lurleen B. Wallace School of Nursing at Jacksonville State University, 1967; Troy State University School of Nursing, 1969; the University of Alabama in Huntsville School of Nursing, 1971; Florence State University School of Nursing, 1971; the University of South Alabama Division of Nursing, 1972. The Ida V. Moffett School of Nursing at Samford University was authorized by that school's Board of Trustees in 1973.

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[32] Koehler, Assessment of Nursing Education in Alabama, 1968, p. 48.

The Progress Report: Nursing and Nursing Education in Alabama, 1968-1973, issued in 1973, reiterated the first two recommendations from the 1968 Assessment and others were added. The Progress Report concluded with a recommendation that ". . . the Commission on Nursing take the initiative to establish a planned system of communication with the Alabama Commission on Higher Education, Alabama State Department of Education, Alabama Comprehensive Health Planning Agencies, and appropriate professional associations."[33] This recommendations is further testimony of nursing's expressed need for mutual collaboration with appropriate established mechanisms within the State to develop a statewide plan for determining the distribution and kinds of nursing schools needed to meet the nursing care needs of the people of Alabama.

By and large, recommendations from the Progress Report were ignored. The Capstone College of Nursing at the University of Alabama in Tuscaloosa received legislative approval and funding in 1975; schools of nursing at Auburn University in Auburn and Auburn University at Montgomery were sanctioned by the legislature in 1978. Also in 1978, the Division of Nursing at Mobile College was implemented; however, provisional approval to develop the baccalaureate program had been granted to Mobile College in 1972 by the Alabama Board of Nursing.

Some traditional diploma schools of nursing were permanently closed as a result of the coming of the new wave of baccalaureate nursing education. In some instances diploma schools were formally merged with new baccalaureate programs; in other instances diploma school administrators agreed to phase out their operations while new baccalaureate programs were developed. For example, the Anniston Memorial School of Nursing participated in a formal merger with the Lurleen B. Wallace School of Nursing at Jacksonville State University; Troy State University School of Nursing in Montgomery developed simultaneously with the phasing out of St. Margaret's Hospital School of Nursing; the diploma program operated by the Baptist Medical Centers also participated in a formal merger with the Ida V. Moffett School of Nursing at Samford University; the University of South Alabama developed as the Mastin School of Nursing was phased out; and the Division of Nursing at Mobile College merged with the Mobile Infirmary School of Nursing. Although there was no formal merger between the Capstone College of Nursing and Druid City Hospital School of Nursing at Tuscaloosa, the two institutions agreed to cooperate in phasing out the diploma school while the baccalaureate program developed.

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[33] Committee of Directors of Professional Schools of Nursing and Alabama Board of Nursing, Progress Report: Nursing and Nursing Education, 1968-1973 (Montgomery, AL: Alabama Board of Nursing, 1973), p. 25.

By the mid-1960s, Alabama also felt the impact of a project proposed by Mildred Montag in 1951. The purpose of Montag's project was to determine the feasibility of preparing bedside nurses in a two-year program in community and junior colleges (i.e. associate degree in nursing). It was believed that this approach would assist in alleviating the critical shortage of nurses as well as help to move nursing education into the overall system of higher education.

Four assumptions formed the basis for Montag's study:

1. That it is possible to consider the functions of nursing as being on a continuum or as having a spectrum range;
2. That these functions can be differentiated sufficiently to plan educational programs accordingly;

3. That it is economically desirable to establish such programs in appropriate educational institutions;
4. That aids can be taught on the job and nurses with professional functions can and should be prepared in universities and colleges.[34]

According to Montag, society's needs for nursing service were not being met; the demands for nursing service would increase quantitatively and qualitatively; and the functions of nursing would become more complex. The new "nurse technician" would be prepared for performing nursing functions more limited in scope that that of the professional nurse, but broader in scope than that of the licensed practical nurse. However, pressures of the nursing shortage dissolved the intended separation of the nurse technician and the professional nurse so that graduates of all basic programs, i.e. associate, diploma, baccalaureate, take the same licensure exam for registered nurses.

The development of associate degree education for nurses in Alabama began in 1966 when Jefferson State Junior College received provisional approval from the Alabama Board of Nursing. The opening of this program was the first effort in the State to provide a two-year nursing program in a junior or community college for the purpose of preparing persons to write the Registered Nurse State Board Test Pool Examination (SBTPE). Gadsden State Junior College was the second associate degree program to open in 1967. The development of associate degree education can be traced from these two early programs which accompanied the gradual closing of diploma programs. Between 1956 and 1970, five associate degree programs were opened and all were located in junior and community colleges. Between 1971 and 1976, thirteen additional associate degree programs opened. It should be pointed out, however, that five of these programs were in four-year colleges or universities, three of which were private institutions. All of the existing associate degree programs are approved by the Alabama Board of Nursing, and eight are accredited by the National League for Nursing.

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[34] Mildred L. Montag, The Education of Nursing Technicians (New York: G. P. Putnam's Sons, 1951), p. 134.

Practical nursing education has experienced tremendous growth since 1950. In 1952, Ayers State Technical College opened a practical nursing school and in 1953, Calhoun State Community College in Decatur and Southwest State Technical College in Mobile began practical nurse programs. The number of programs gradually increased from one to nine during the years from 1952 to 1965. In 1966, along with the growth of community and technical colleges, eleven practical nurse programs were opened resulting in a total of twenty in the State. After 1966, there was a gradual increase in numbers of programs to twenty-five in 1975. This number remains constant to the present time. All of the practical nurse programs are approved by the Alabama Board of Nursing, but none are accredited by the National League for Nursing. The majority of these programs are located within state technical schools or community colleges.

## Nursing Education Today

### Number of Programs

Nursing education in Alabama currently consists of one public doctoral program, two public master's programs, nine public and three private baccalaureate programs, twelve public and three private associate degree programs, three public post-LPN only associate degree programs, four private diploma programs, and twenty-one public and four private practical nursing programs. In essence, then, the State has three higher degree programs, thirty-four basic nursing programs and twenty-five practical nursing programs. (See appendix A for a list of the programs.)

With respect to the number of postsecondary institutions with nursing programs, ten of the fourteen public senior institutions, nine of the fifteen public junior colleges, and five of the six public community colleges currently operate basic nursing programs. In addition, fifteen of the twenty-two public technical colleges and institutes have practical nursing programs. Geographic distribution of these nursing programs is graphically illustrated in maps in appendix B.

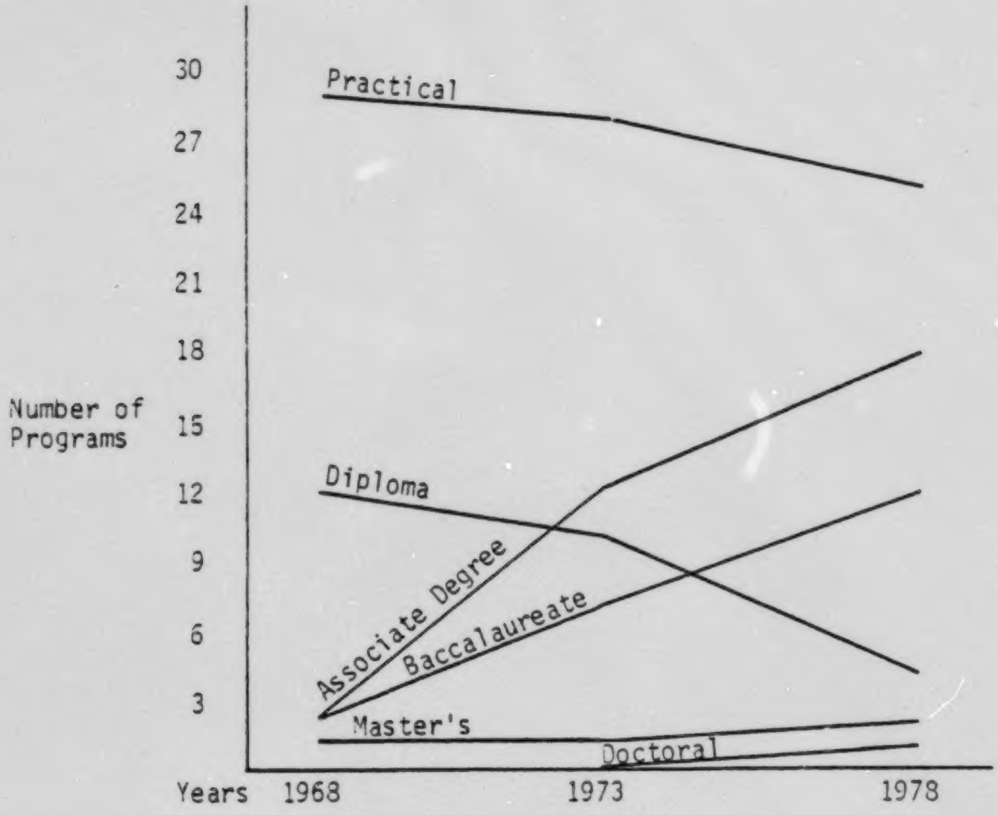
Alabama has followed national trends in terms of the number of diploma programs. As Figure 1 illustrates, the number of diploma programs has decreased dramatically over the last ten years. At the same time, however, the number of associate degree and baccalaureate programs has increased dramatically. The number of practical nursing programs has experienced a slight decline since 1973.

## Graduations

As would be expected, the increase in the number of basic nursing programs has caused a corresponding increase in the number of graduates. There are several recently established basic nursing programs which have not yet begun graduating students and/or operating at full capacity. Graduates from practical nursing programs have increased only slightly.

From 1973 to 1978, the number of graduates from baccalaureate nursing programs increased 222 percent, from associate degree programs increased 153 percent, and from higher degree programs increased 67 percent.

Fig. 1. Growth of Nursing Programs in Alabama, 1968-1978



Source: Alabama Board of Nursing

However, the number of graduates from practical nursing programs increased only 28.5 percent in that time period. Following national trends, the number of graduates from diploma nursing programs decreased by 56 percent. (See appendix C for a detailed description of graduations in 1968, 1973, and 1978.)

Enrollments

Higher degree nursing programs, from 1973 to 1978, experienced the greatest percentage increase in enrollment--292 percent. The baccalaureate programs also experienced a substantial growth in enrollment of 115 percent.

### TABLE 1

### FULL-TIME/PART-TIME FACULTY IN EXISTING NURSING PROGRAMS
(As of December 31, 1979)

| Program Level | Full-time | Part-time | Total |
|---|---|---|---|
| DSN | 6.0 | 0 | 6.0 |
| MSN | 24.2 | 4 | 28.2 |
| BSN | 260.8 | 17 | 277.8 |
| ADN | 173.0 | 19 | 192.0 |
| DIPLOMA | 52.0 | 7 | 59.0 |
| PRACTICAL[a] | 100.0 | 6 | 106.0 |
| TOTAL[b] | 616[b] | 53 | 66.9[b] |
| ADJUSTED TOTAL[c] | 533[c] | | 636[c] |

[a] Birmingnam Metro did not respond to the survey.

[b] This total should be decreased by 33 to account for those faculty who teach in two program levels in a single institution.

[c] This total has been adjusted for faculty who teach in two program levels in a single institution.

Source: 1979 Survey of Nursing Programs by the Alabama Commission on Higher Education.

Smaller enrollment growth was shown by the associate degree programs at 52 percent and the practical nursing programs at 33 percent. As expected, the diploma programs experienced a major decline in enrollment of 61 percent in conjunction with the closing of a number of programs. (See appendix D for a detailed description of enrollments in 1968, 1973, and 1978).

## Faculty

In 1979, there were 583 full-time and 53 part-time faculty members teaching in basic and practical nursing programs in Alabama. Table 1 shows how these faculty were distributed among the various program levels.

The educational preparation of faculty is a critical component of any nursing program. Table 2 shows the education of the full-time nursing faculty in Alabama by program level.

Faculty:student ratios is another critical component of existing nursing programs. Overall, the full-time faculty:student ratio in Alabama nursing programs is 1:10 or less in doctoral, baccalaureate, and diploma programs.

TABLE 2

EDUCATIONAL PREPARATION OF FULL-TIME FACULTY IN EXISTING NURSING PROGRAMS (As of December 31, 1979)

| Program Level | Doct | MSN | MS-Other | BSN | BS-Other | ADN | Dipl |
|---|---|---|---|---|---|---|---|
| DSN | 100.0% | --- | --- | --- | --- | --- | --- |
| MSN | 21.5% | 76.9% | 1.6% | --- | --- | --- | --- |
| BSN | 9.5% | 71.4% | 11.0% | 8.1% | --- | --- | --- |
| ADN | 2.3% | 53.5% | 13.9% | 24.4% | 4.7% | .6% | .6% |
| DIPL | --- | 19.2% | 15.4% | 42.3% | 7.7% | --- | 15.4% |
| LPN | --- | 2.0% | 6.0% | 42.0% | 17.0% | 6.0% | 27.0% |

Source: 1979 Survey of Nursing Programs by the Alabama Commission on Higher Education

In higher degree programs, the ratio is 1:8.16 for doctoral and 1:13.80 for master's programs. At the baccalaureate level, the ratio is 1:9.06, and in diploma programs the ratio is 1:7.84. However, the associate degree program ratio is 1:12.48 and the practical nursing program ratio is 1:14.73. Individual programs vary from 1:5.66 to 1:21.66. (See appendix E for a detailed description of the full-time faculty:student ratios.)

## Articulation

According to Frederick Kintzer, articulation is specifically related to the process of joining together to provide a ". . . continuous, smooth flow of students from grade to grade and school to school."[35] However, Kintzer cautions against viewing articulation strictly as the acceptance or rejection of grades, credits, and/or programs by receiving institutions. "The term introduces a complex series of processes and attitudes focused on the movement of students--such activities as counseling and advisement at both sending and receiving schools, as well as matriculation, admission, and financial aids in the new environment."[36]

In nursing education, articulation has become a necessary process in view of current educational trends. The possibility of the baccalaureate degree as the entry level into practice and the reality of the baccalaureate degree as a prerequisite for graduate education demand that nursing education work toward a strong system of articulation between practical, associate, diploma, and baccalaureate programs. In 1979, 75 percent of all active registered nurses had a diploma or associate degree as their highest degree. Thus, it is essential that a means is provided whereby those RNs in this group who seek a higher degree can do so with advanced standing for previous learning and experience.

At this time, there are several programs which promote the articulation process. The BSN outreach programs of Troy State University in Montgomery and Dothan offer educational opportunities for RNs to improve formal education without interrupting full-time employment status. In addition, Samford University offers a unique baccalaureate program which facilitates the articulation process by teaching the technical component of nursing in the freshman and sophmore years. Students can then graduate with an associate degree in nursing and write the state board examination to become licensed as registered nurses. However, students have the option of continuing on into the junior and senior years, graduating with baccalaureate degrees in nursing.

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[35] Frederick C. Kintzer, Middleman in Higher Education (Washington: Jossey-Bass Publishers, 1973), p. 5.

[36] Alabama Commission on Higher Education, Proceedings of Conference on Postsecondary Statewide Planning for 1980-1985) Montgomery, AL, 1978), p. 49.

There are also three associate degree programs at two-year institutions which limit enrollment to LPNs allowing them to complete ADN requirements in a single year. These programs are at Bishop State Junior College, Chattahoochee Valley State Community College, and Wallace State Community College in Selma.

Most baccalaureate programs which do not have special tracks for articulation will accept RN students into their regular program. However, the amount of credit which is awarded for previous learning and experience is dependent upon the individual's ability to successfully pass challenge examinations. Most ADN programs will also accept LPN students, but again, credit is awarded on an individual basis.

## Clinical Facilities

A critical component of nursing education is clinical experience within hospitals and other health care facilities. Therefore, available and adequate clinical facilities are required for a nursing program to offer quality educational experiences.

During the time diploma programs were dominant in the State, each hospital that could not meet its need for clinical experiences was able to arrange with another hospital to obtain these experiences. However, as additional programs developed rapidly in the past ten years, available clinical facilities have had difficulty accommodating requests from new programs to provide clinical facilities to their students, especially in the areas of maternity, pediatric, psychiatric, and public health nursing.

Moreover, it is distressing to note that the nursing program at Tuskegee Institute, the oldest nursing program in the State, has not had adequate clinical facilities opened to it for a number of years. This situation has necessitated that students go out of state as far as Maryland to get clinical experiences. Yet, since 1970, seven basic and practical nursing programs have opened within a 40-mile radius of Tuskegee Institute and all seven programs were able to secure clinical facilities. However, several of these programs were forced to go to Georgia for clinical experience.

## Accreditation by the National League for Nursing

The National League for Nursing (NLN) is recognized by the Council on Postsecondary Accreditation and the U.S. Office of Education as the national accrediting agency for master's, baccalaureate, associate, diploma, and practical nursing programs. Accreditation of a nursing program is a voluntary process of peer review which assures that the program meets national standards approved by the membership of the pertinent NLN education council. NLN accreditation is viewed as one way to foster the development and improvement of nursing education and thus

Fig. 2. Nursing Programs in Alabama Accredited by the National League for Nursing, 1979.

### Master's Program

University of Alabama in Birmingham

### Baccalaureate Programs

Jacksonville State University
*Mobile College
*Samford University
Troy State University
*Tuskegee Institute
University of Alabama in Tuscaloosa
University of Alabama in Birmingham
University of Alabama in Huntsville
University of South Alabama

### Associate Degree Programs

Calhoun State Community College
Jefferson State Junior College
Livingston University
*Mobile College
Northwest Alabama State Junior College
*Samford University
Troy State University
Wallace State Community College/Dothan

### Diploma Programs

*Holy Name of Jesus Hospital
*Providence Hospital
*Sylacauga Hospital
*St. Vincent Hospital

Note: No practical nursing programs in Alabama are accredited.

*Denotes program at private institution.

Source: National League for Nursing with update for Mobile College.

improve nursing practice. Figure 2 lists all nursing programs which were accredited in Alabama in 1979.

## Nursing Practice Today

### Registered Nurses

In 1979, there were 17,501 RNs licensed in Alabama who were employed or living in the State. Of this number, 75 percent was prepared at the diploma and associate levels, 21 percent at the baccalaureate level, and 4 percent at the higher degree level. Additionally, 69 percent of the 17,501 RNs were employed full-time in nursing, 15 percent part-time in nursing, 14 percent unemployed, and the remaining 2 percent working in non-nursing fields, going to school, or retired. This inactive percentage accounted for approximately 3,000 RNs.

Traditionally, the higher the professional degree, the more likely a person is to stay active in a profession. This tradition holds true for nursing. Of the higher degree RNs in 1979, 82 percent were employed full-time in nursing and 7 percent part-time in nursing. In contrast, 69 percent of the diploma and associate degree RNs were employed full-time in nursing and 15 percent part-time in nursing.

With respect to employment settings, 74 percent of the 17,501 RNS were employed in hospitals. Community health accounted for 6.4 percent of the RN work force, and physician offices, schools of nursing and nursing homes accounted for 5 percent each. The remaining small percentage was distributed among self-employed, occupational health, school health, and private duty.

### Practical Nurses

Licensed practical nurses employed or living in the State in 1979 numbered 14,957. Of this number, 62 percent was employed full-time in nursing, 17 percent part-time in nursing, 16 percent unemployed, and 5 percent employed in non-nursing professions, going to school, or retired.

Over 53 percent of the practical nurse work force was employed in hospitals in 1979. In addition, 15 percent was employed in nursing homes, 7 percent in physician offices, and 3 percent as private duty nurses. The remaining percentage was distributed among self-employed, occupational health, school health, and community health.

# CHAPTER III

## CHARGE ONE: CONTINUE THE DEVELOPMENT OF A PROJECTION MODEL FOR DETERMINING THE SUPPLY OF AND DEMAND FOR REGISTERED AND PRACTICAL NURSES IN ALABAMA. DETERMINE THE PROPER MIX OF NURSES PREPARED AT THE BACCALAUREATE, ASSOCIATE, DIPLOMA, AND PRACTICAL LEVELS

### The WICHE Model

An analysis of supply and demand for registered and practical nurses is a difficult exercise at best. The most statistically sound projection can become meaningless by a change in national policy. For example, reasonable projections developed today would become invalid with the passage of national health insurance legislation.

While external events can invalidate manpower projections, this limitation does not preclude the necessity for and value of manpower planning, with reliance on planning techniques, i.e., supply and demand projection models. As such, the Advisory Committee did a thorough search for a supply and demand projection model for nursing. Initially, the Advisory Committee used a computer model developed by the state of Virginia; however, results of this model were inconclusive. As an alternative, the Advisory Committee agreed to use the computer model developed jointly by the Western Interstate Commission for Higher Education (WICHE) and the National Center for Higher Education Management Systems (NCHEMS), commonly referred to as the WICHE model. The WICHE model was selected for its ability to project nursing requirements and resources by educational preparation and employment settings.

WICHE had been prompted by two major pieces of federal legislation to develop the analytical model for projecting nursing supply and requirements in the future. In 1974, the National Health Planning and Resources Development Act authorized state and local planning agencies to develop definite health plans for services, facilities, and manpower. A year later, the Nurse Training Act directed the secretary of HEW to submit annual reports to Congress on the resources and requirements for nursing personnel. That same year the Division of Nursing entered into a contract with WICHE for a project to strengthen the nursing field's ability to analyze nursing manpower requirements and resources. Among the many aspects of this project was the development of an analytical model to project nursing supply and requirements at the state level.

The Advisory Committee recognized that a major limitation of the WICHE model is its inability to project nursing requirements and resources below the state level, and thus address the geographic maldistribution problems of nursing within the State. However, this model is recommended by the American Hospital Association and represents the best planning model for nursing which has been developed to date.

At the time the Alabama study of nursing education was begun, WICHE had not completed the final revisions to the state model. Thus, this study uses the state model which was provided to the pilot test states. Therefore, there may be some differences in printouts in this study and other studies which are based on later revisions of the model.

The state model is divided into two sections--requirements and resources. A brief explanation of each section is given.

### Requirements Section

Procedures for projecting nursing requirements in the future consist of two elements. The first is a series of equations which estimate the full-time equivalent (FTE) numbers of RNs and LPNs required in various employment settings and positions. (See appendix F for a list of the equations.) The second element is a number of assumptions about the educational preparation of RNs. These assumptions are expressed in terms of five-element educational vectors, each element of which represents a percentage of RNs with one of five possible educational preparations. The sum of each vector must equal 100. Once these educational vectors are specified, they are applied to the FTE number of nurses calculated for various positions and settings, and the projected number of RNs is then distributed according to educational preparation. (See appendix G for requirements section computer run.)

The Advisory Committee recognized that some attention should be given to the use of the word assumption. In the context of the requirements projections, assumptions are meant to convey the notion of "best guess" about what a particular health-service ratio or staffing pattern should be at some point in the future. For some, the word estimate may seem more comfortable and appropriate. In any case, the assumptions were documented with accompanying rationales. (See appendix H for an explanation of the rationales of the requirements assumptions.)

As the Advisory Committee worked with the assumptions, the need for definitions of competencies of the different educational preparations of nurses became clear. The Advisory Committee agreed to use the material provided by the Task Force on Competencies of Graduates of Nursing Programs of the National League for Nursing. (See appendix I for excerpts from the Working Paper of the NLN Task Force on Competencies of Graduates of Nursing Programs.)

## Resources Section

Nursing resources are the largest component of the health care system--and the most diverse. As the WICHE Guide for State-Level Planning states: "Trying to understand this vast resource in order to intelligently plan for the future is difficult. Therefore, a resources planning process has been developed to systematically organize the major aspects of factors that influence nursing resources."

One aspect of future nursing resources relates to the number of graduates who enter the work force. The resources section examines all nursing programs from an historical perspective. By looking at previous admissions and corresponding graduations, a completion percentage is computed for individual programs. The model then uses this percentage, along with future admission estimates, to compute projections of future graduates. Graduates are placed in four categories: practical, associate/diploma, baccalaureate, and higher degree. The model includes an adjustment for post-RN BSN graduates and post-RN higher degree graduates so that these nurses are not "double-counted" in the work force.

The second aspect of future nursing resources relates to attrition from the work force for a number of reasons, such as nurse inactivity, nurse migration, license suspension, license lapse, license revocation, and license failure. To determine historical attrition, and thus project future attrition, the model takes data on beginning and ending supply of nurses and computes a net attrition rate (NAR). For this study, 1972 was the beginning supply or base year and 1979 was the ending supply or final year. The NAR, then, is a percentage calculated on the basis of this historical data which assesses the effect of all attrition factors during a specified time period (1972-1979). The NAR is applied to the projected supply in 1984 to adjust for all attrition factors.

The Advisory Committee used totals for the beginning and ending supply which had already been adjusted for inactivity and for out-of-state employment. Therefore, the ending number represented the

## TABLE 3

### TOTAL REQUIREMENTS COMPARED TO TOTAL RESOURCES FOR 1984
(Note: All Figures are computed as FTE)

| Level of Preparation | Resources | Requirements | Difference |
|---|---|---|---|
| Dipl/ADN | 12,567 to 13,345 | 6,146 to 6,526 | 6,421 to 6,819 |
| BSN | 5,764 to 6,120 | 13,011 to 13,815 | -7,247 to -7,695* |
| Higher Degree | 1,330 to 1,412 | 4,672 to 4,961 | -3,342 to -3,549* |
| Total RNs | 19,661 to 20,877 | 23,803 to 25,280 | -4,147 to -4,403* |
| LPNs | 13,499 to 14,335 | 10,402 to 11,044 | 3,097 to 3,291 |

*The minus sign indicates a critical undersupply in a particular educational preparation.

Note: These figures do not represent the absolute number of requirements and resources available or needed in 1984. However, these numbers should be considered as a working range of the absolute number.

Source: Appendices G and T.

projected number of RNs and LPNs who would be working full-time or part-time in nursing in Alabama in 1984. The Committee then made further adjustments to the four categories so that the final supply reflects the number of FTE nurses who can be expected in the work force in 1984. (See appendix J for the resources section computer run and appendix K for the explanation of rationale for resources section.) Table 3 summarizes the results of the state-model run of the requirements and resources sections.

## Findings

Based on data presented in this section, the Advisory Committee on Nursing Education finds:

1. That there will be a shortage of active and practicing RNs in 1984. The greatest undersupply will be at the baccalaureate and higher degree levels.

2. That there will be a more than adequate supply of active and practicing LPNs in 1984.

## Recommendations

Based on its findings, the Advisory Committee on Nursing Education recommends:

1. That the current and projected problems related to nurse manpower, i.e., shortages and maldistribution of RNs and the distribution of RNs by levels of preparation, be met by:

a. Supporting existing quality programs for nurses prepared at the practical, diploma, associate, baccalaureate, master's, and doctoral levels;

b. Utilizing resources in existing programs in preference to establishing new nursing programs. In such cases where new programs are proposed in public institutions, the programs should not be approved unless they meet all program review criteria of the Alabama Commission on Higher Education and the Alabama Board of Nursing. Where programs are proposed in private institutions, the programs should not be approved unless they meet all program review criteria of the Alabama Board of Nursing;

c. Recognizing that the shortage of nurses is the responsibility of the health care system as well as the educational system, it is recommended that the Alabama Hospital Association set as a goal the attraction of 10 percent of the 3,000 inactive RNs back into the hospital setting. Further, it is also recommended that the Alabama Hospital Association, whose members are the primary employers of RNs and LPNs, conduct a study which addresses what hospitals in Alabama are doing to retain active RNs as well as to attract inactive RNs back into the work force. This study should be completed by December 1981 with results disseminated throughout the State;

d. Making a concerted effort, on the part of the educational and health care systems, to facilitate nursing career counseling for recruitment and for educational mobility;

e. Increasing enrollment in baccalaureate and higher degree nursing programs by strengthening existing programs;

f. Developing a statewide plan for providing educational mobility in existing nursing programs which will encourage LPNs and RNs to seek further education. This statewide plan should address program accessibility, articulation, programming, funding, and financial assistance for students.

## CHAPTER IV

## CHARGE TWO: CONDUCT A REVIEW OF EXISTING NURSING PROGRAMS

Under Act 461, 1979 Regular Session of the Alabama Legislature (Code of Alabama, 1975, Title 16, ch. 5, sec. 1-14), the Alabama Commission on Higher Education is ". . . authorized to review periodically all new and existing programs and units of instruction, research, and public service funded by state appropriations at the State Universities and Colleges and to share with the appropriate governing board, through the president of the institution, and state legislature, its recommendations."[37] Thus, inherent in the Commission's legislation is the charge to conduct a review of new and existing programs in all fields, including nursing. However, the Alabama Board of Nursing is also charged to review the quality of new and existing nursing programs.

Created by Act 867, 1975 Regular Session of the Alabama Legislature (Code of Alabama, 1975, Title 34, ch. 21, sec. 1-24) and amended by Act 427, the Alabama Board of Nursing is the agency of state government that administers the Nurse Practice Law in Alabama.[38] Membership on the Board consists of six registered nurses and three practical nurses appointed by the Governor to four-year terms. The Alabama Board of Nursing is authorized to prescribe minimum standards and approve curricula for educational programs preparing persons for licensure as RNs and LPNs, and to provide for surveys and evaluations of such programs at times it may deem necessary. It should be noted, however, that the Board has no authority over any graduate level nursing programs. The Alabama Board of Nursing also conducts on-site visits to all nursing programs on a five-year cycle, evaluating the organization, administration, philosophy, objectives, faculty, facilities, curriculum and records. However, visits are made more often to programs with specific identified problems.

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[37] Act 461 (Code of Alabama, 1975, Title 16, ch. 5, sec. 1-14).

[38] Act 867 (Code of Alabama, 1975, Title 34, ch. 21, sec. 1-24).

In addition, the Alabama Board of Nursing approves programs which meet certain standards and denies or withdraws approval from nursing programs which fail to meet prescribed standards. Only graduates of Board-approved programs can take the licensing exam, and thus, practice nursing. The Alabama Board of Nursing also has the responsibility to examine and license qualified applicants and renew the licenses of registered and practical nurses. For a list of the Alabama Board of Nursing's criteria for evaluating nursing programs, see appendix L.

Thus, the Advisory Committee found two state agencies charged by law with a similar function--that of evaluating new and existing nursing programs. The Board of Nursing's review applies to all public and private basic nursing programs, and the Commission on Higher Education's review covers programs at all levels in post-secondary institutions which are funded by state appropriations. Sensitive to the issue of duplication, the Advisory Committee determined that the Commission on Higher Education and the Board of Nursing should not duplicate efforts in any type of program review.

Therefore, the Advisory Committee felt that the evaluation of the quality of new and existing basic nursing programs should be done by the Board of Nursing, with copies of the Board's evaluation reports shared with the Commission on Higher Education.

Additionally, it was recognized that program review by the Commission will address issues beyond those addressed by the Board of Nursing's criteria, as well as the quality of graduate level nursing programs. (See appendix M for a list of the Commission on Higher Education's criteria for reviewing existing programs.) The Commission has a responsibility to the people of the state of Alabama to promote a wise and efficient use of state resources in terms of need for and efficiency of a nursing program. Also, only the Commission can evaluate the appropriateness of a nursing program to the defined role and scope of the institution.

The Advisory Committee therefore recommends that the review of new and existing basic nursing programs be a cooperative effort with the Board of Nursing providing the quality assessment and the Commission on Higher Education evaluating need for and efficiency of the program and the appropriateness of the program to the institutional role and scope. However, it is possible that the Board of Nursing's quality assessment may impact on the Commission's review.

It should be noted that this type of cooperative review is fairly uncommon; in many states, the review of quality of existing nursing programs is done by the coordinating board for higher education regardless of the role of the state board of nursing. Therefore, this cooperative review should be viewed as experimental with an evaluation of its adequacy and effectiveness to occur in 1985.

In discussing the issues relating to quality, the Advisory Committee reviewed existing literature in the field. In addition, the Committee invited Dr. Pat Haase of the Southern Regional Education Board to make a presentation on state review of nursing programs. (For a copy of Dr. Haase's remarks, refer to appendix N.)

### On Strengthening the Program Review Criteria of the Alabama Board of Nursing

The Advisory Committee discussed in much detail the various criteria used in evaluating programs by the Alabama Board of Nursing. (See appendix L.) After much deliberation, the Advisory Committee decided to recommend a strengthening or expansion of the Board of Nursing's criteria in the following manner:

1. The overall ratio of full-time faculty to nursing students in the professional component of the nursing program should not exceed 1:10. In the clinical setting, the ratio of full-time faculty to students should not exceed 1:10. This ratio should be lower in selected clinical settings and will depend upon the level of the student within the program.

Rationale: In its criteria for evaluating programs, the Alabama Board of Nursing makes the following statement: "No faculty member should be responsible for more than ten students in a clinical area at any given time"[39] for both practical and basic nursing programs. Expanding on this criterion, the Advisory Committee felt that the overall ratio of full-time faculty to students should not exceed 1:10. This criterion does not mean that the full-time faculty to student ratio will not exceed 1:10 in appropriate courses, but rather that the overall ratio of full-time faculty to students in the professional component of a program will not exceed 1:10.

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[39] Alabama Board of Nursing Rules and Regulations, 1977 (Montgomery, AL: Alabama Board of Nursing, 1977), p. 16.

Under no circumstances, however, should the full-time faculty to student ratio in the clinical setting exceed 1:10. This ratio relates not only to the optimal preparation of the student, but also to the safety of the client receiving care by the student and the legal responsibility of the faculty members.

2. The educational preparation of the faculty should be as follows:

| | Type of Program | | | |
|---|---|---|---|---|
| | LPN | DIPL | ADN | BSN |
| Educational Prep. of Faculty | 75% MSN<br>25% BSN | 10% PHD*<br>90% MSN | 10% PHD*<br>90% MSN | 25% PHD*<br>75% MSN |

* Doctoral Preparation (i.e., Ph.D., Ed.D., DSN)

Rationale: Also in its criteria for evaluating programs, the Alabama Board of Nursing requires that in programs preparing students for licensure as practical nurses, the director or coordinator shall have at least a baccalaureate degree preferably in nursing, and that faculty shall have a minimum of a baccalaureate degree preferably in nursing. In addition, for basic programs, the Board of Nursing requires that the program director and/or coordinator(s) have at least a master's degree preferably in nursing and that nurse faculty have at least a baccalaureate degree preferably in nursing.[40] The Advisory Committee felt that these criteria were not rigid enough and expanded them as indicated. Nursing is a professional field, and the Advisory Committee felt strongly that those preparing new professionals should be as knowledgeable and as highly qualified as possible. Additionally, the Advisory Committee supported advanced preparation in nursing, not other fields. Therefore, baccalaureate and master's prepared faculty should have degrees in nursing, not education or other such fields.

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[40] Alabama Board of Nursing Rules and Regulations 1977, p. 15.

It was recognized that the faculty in many programs do not have the recommended preparation at the present time, and do not live in areas where they can pursue a higher degree and remain employed. The Advisory Committee felt that no experienced faculty member should be terminated for lack of an appropriate degree. However, any new hiring of faculty should be at the indicated levels. Thus, the level of preparation of faculty will gradually increase toward the desired goals.

3. Clinical facilities and resources should:

a. Be within reasonable traveling time from the program site;

b. Be available to meet the stated objectives for clinical experience of the nursing program;

c. Be utilized only by as many programs as can be accommodated without compromising safety and quality of care.

Rationale: The Advisory Committee was concerned about the adequacy of clinical facilities for the twenty-five practical and thirty-four basic nursing programs in Alabama for several reasons. First of all, the Advisory Committee felt that no student should have to travel for an unreasonable time to reach a clinical site, other than for specialized unqiue experiences. Too often, in the Advisory Committee's opinion, programs are established in areas which do not have adequate clinical resources, and faculty and students are required to commute unreasonable distances. Secondly, in some cases, clinical facilities are saturated with students.

4. Practical and basic nursing programs should achieve an 85 percent or above passage rate or attain the national mean on the State Board Test Pool Examination (SBTPE).

Rationale: The SBTPE has two broad purposes: (1) to test graduates of nursing programs to determine if their knowledge of principles and practices of nursing is sufficient to qualify them for licensure as safe and effective practitioners; and (2) to protect society by excluding from practice those judged to be unsafe and ineffective because of low achievement on the examination.[41] Thus, the SBTPE was not designed to measure the quality of practical and basic nursing programs. However, if a graduate cannot pass the SBTPE, the graduate cannot practice nursing; thus, the SBTPE performance of the graduates has some implications for the quality of the individual programs.

To fully understand the passage rates, an explanation of the exam itself is in order. Designed by the National Council for State Boards of Nursing and administered by the state boards of nursing, the SBTPE is a norm-referenced examination which sets 500 as the mean and 100 as the standard deviation (s.d.). A cutoff point of 350 for passing (1.5 s.d. below the mean) is accepted in Alabama as well as many other states. The RN examination contains five separate tests, and the candidate must score at least 350 on each test to pass the exam. The LPN exam is an integrated examination; therefore with a score of 350 on the total examination, the candidate is licensed.

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[41] Examining the Validity of the State Board Test Pool Examination For Registered Nurse Licensure (New York: National League for Nursing, 1978), p. iii.

After graduating from a nursing program, the student is allowed to practice under a temporary permit only until the student has an opportunity to take the SBTPE and the scores are released. If a graduate passes the exam, a permanent license is issued. If a graduate fails the exam, the temporary permit is no longer valid and the graduate cannot practice nursing; however, a graduate may retake the exam. In Alabama, the SBTPE is offered during the months of February and July, with results distributed approximately eight weeks after the exam.

It is common practice for hospitals and other health care institutions to hire graduates who are practicing under temporary permits, as there is usually a lapse of three to six months between graduation and receipt of SBTPE results. Thus, if a graduate fails the exam, the employing agency has lost time and money spent in orienting the new graduate. In addition, "nursing graduates expect to be capable of being licensed, and prepared for assuming a first level position in nursing."[42] Therefore, it is advantageous to the employer and the student that the educational institution prepare the student to pass the SBTPE on the initial writing of the examination.

In years past the passage rates of individual programs and the State as a whole were very high, usually in the 90-100 percent range.

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[42] Cleo Doster, "Accountability: Student Consumer" in Accountability-The Obligation of the Educational Institution to the Consumer (National League for Nursing, 1977), p. 16.

However, the passage rate has declined in recent years, both nationally and in Alabama. Nationally, in 1975 (the latest year for which figures are available), the passage rate for RN candidates was 79 percent and for LPN candidates was 89 percent.[43] In 1979, the passage rate in Alabama was 78 percent for RN candidates and 91 percent for LPN candidates.

Although recent passage rates on the SBTPE for candidates for RN licensure has been between 75-80 percent, the Advisory Committee felt that an 85 percent or better passage rate for RN and LPN candidates is a reasonable goal. Attaining such a goal will provide some assurance that at least 85 percent of those writing the exam will be available for practice immediately. Also, employers can be fairly confident that a new graduate will pass the SBTPE and remain on staff, and students who do well in programs can reasonably expect to pass the SBTPE. Additionally, it was recognized that SBTPE mean scores contribute greatly in reflecting quality within a particular program. Therefore, the mean scores of a program should not be less than the national mean. Recently, the Alabama Board of Nursing has begun releasing and publishing the mean score and passage rate by program. The Advisory Committee endorses this practice by the Board.

5. Each nursing program should have written admission standards.

Rationale: In its criteria for evaluating a nursing program, the Alabama Board of Nursing states: "There shall be written policies developed by the faculty for selection, admission, promotion, and graduation which shall be in accordance with the philosophy and objectives of the program."[44] The Advisory Committee endorses this criterion, believing that admission standards are very important and greatly influence the quality of a program.

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[43] Facts About Nursing 76-77 (Kansas, MO: American Nurses' Association, 1977, p. 57 and 253.

It was recognized that junior and community colleges, and technical colleges and institutes operate under an "open door" admission policy. However, it was felt that this policy should not override the establishment of admission standards for nursing programs.

## On the Role of the Alabama Commission on Higher Education

In examining the role of the Commission on Higher Education for reviewing new and existing nursing programs, the Advisory Committee compared the Commission's criteria used in the review of existing programs (appendix M) to the criteria used by the Board of Nursing (appendix L). The following recommendations represent the three areas which the Advisory Committee felt the Commission should examine in the cooperative review with the Board of Nursing. With respect to the review of graduate level nursing programs, the Commission should use its developed criteria, in addition to these three criteria.

1. Assess the need for the program.

Rationale: To evaluate need for a nursing program, several factors must be considered such as employment opportunities for graduates, geographic distribution of the program, and level of preparation of the graduates. While it is true that most geographic areas are experiencing critical shortages of nurses at this time, there are some locations in which the market could be saturated in the future.

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[44] Alabama Board of Nursing Rules and Regulations 1977, p. 17.

Therefore, caution must be exercised to insure that limited state resources are spent in the wisest manner.

There can be no argument that nursing programs should be located so as to provide opportunities for citizens of the State to receive a nursing education. In addition, there are many who believe that having a nursing program located in a particular area will alleviate the nursing shortage in that area.

In his book, The Geographic Distribution of Nurses and Public Policy, Frank Sloan presents data which discount the belief that nurses tend to locate in the area where they are educated.

> Nurses exhibit a substantial amount of mobility over a lifetime. A large proportion of moves are concentrated within the first few years after graduation from nursing school. Nurses generally take their first jobs in the same geographic area in which they complete their training. However, they are likely to move soon thereafter. An implication of this finding is that locating nursing schools in geographic areas underserved by nursing manpower may increase the supply of young nurses in such areas, but other methods must be found to retain them.[45]

Thus, locating programs in underserved areas throughout the State in and of itself may not solve the problem of maldistribution of nurses for any long period of time. Nursing employers and health care institutions must assume responsibility for various methods of retention.

The geographic distribution of existing nursing programs is illustrated in appendix B. Although there are no objective measures to use in evaluating this distribution, the Advisory Committee recommends that the Commission refer to these maps during the program review process.

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[45] Frank Sloan, The Geographic Distribution of Nurses and Public Policy Washington, D.C.: U.S. Government Printing Office, 1975, p. 154.

Based on the projections made by the Advisory Committee using the WICHE Model, the State will continue to experience a shortage of registered nurses through 1984. However, the greatest undersupply will be those nurses prepared at the baccalaureate and higher degree levels. Additionally, the supply of practical nurses is projected to be more than adequate to meet the needs of the State. Thus, any review of new or existing nursing programs will have to confront the issues of the levels of preparation.

2. Evaluate the efficiency of the program.

Rationale: There are a number of methods which can be used to evaluate efficiency, such as the number of graduates who successfully pass the SBTPE over a defined number of years. Whatever method is used, in this period of severely limited state resources, any program funded by state appropriations must effectively utilize those monies in an efficient manner.

3. Determine whether an educational institution, within its role and scope, has the appropriate resources for providing a nursing program.

Rationale: Planning Document Number 1, the statewide plan for higher education for 1974-79, set forth five categories of senior institutions within the state of Alabama and matched institutions with the appropriate categories. Categories were also identified for junior and community colleges and for technical colleges and institutes. These categories identified degree levels appropriate for the institutions to offer as well as specific areas in which programs could be developed. At this time, another statewide plan is being written which will address the 1980-85 planning period. In this new document, the original role and scope of various institutions may be altered. The Advisory Committee recommends that the Commission evaluate new and existing nursing programs in terms of their appropriateness to the defined role and scope of the institutions.

## On Accreditation of Nursing Programs in Alabama

The following recommendation was discussed on numerous occasions by the Advisory Committee. It seems most appropriate to address the recommendation to the nursing programs themselves.

1. That all nursing programs be accredited by the National League for Nursing.

Rationale: The National League for Nursing (NLN) is the agency responsible for accrediting master's, baccalaureate, associate, diploma and practical nursing programs. A self-evaluation report by the nursing program is one of the first steps of the accreditation process. Subsequently a visit is made by an accreditation team whose members are usually connected with accredited programs in the same region. The team clarifies and verifies data, ascertains faculty interpretations of aspects of the program which may not have been described completely in the self-evaluation, and prepares a supplementary report to the self-evaluation report. After the team finishes its report, the appropriate NLN Board of Review evaluates all materials which have been submitted and makes a decision based on the general excellence of the entire program. Normally, an accredited program is revisited and reevaluated every eight years.

Only programs which have graduated at least one class of students are eligible to be accredited. Therefore, in Alabama, only thirty-two of the thirty-four basic nursing programs are eligible for accreditation (two baccalaureate programs have not yet graduated a class of students). Of the eligible basic programs, 66 percent are accredited. However, this percentage varies considerably by program level: 90 percent of the eligible baccalaureate, 44 percent of the eligible associate, and 100 percent of the eligible diploma nursing programs are accredited. At this time time, no practical nursing programs are accredited even though all practical programs are eligible to apply for accreditation. For a list of accredited programs in Alabama, see Figure 2, page 34.

Accreditation is a expensive process, as demonstrated in Table 4. Differences in cost are indicated depending upon whether or not a program has agency membership within the NLN. Considering the number of non-accredited nursing programs in Alabama, it is evident that the accreditation of all nursing programs in the State will be an expensive process requiring institutional commitment of funds

TABLE 4

ESTIMATED COSTS TO ACCREDIT A NURSING PROGRAM

| Program Level | NLN Member | Non-NLN Member |
|---|---|---|
| Practical | $1050 | $4000 |
| Diploma | $1375 | $4500 |
| Associate | $1850 | $5800 |
| Baccalaureate | $2850 | $5800 |
| Master's | $2850 | $5800 |

Note: These figures represent the minimum costs of the accreditation process, i.e., site visit and fee. Not included are calculations for the cost of consultants which may be brought in prior to the site visit, travel of the visitors, and the preparation of the self-study.

Source: National League for Nursing (telephone conversations during September 1980 with representatives of the various Councils).

beyond the current level. However, the Advisory Committee believes that accreditation is essential to encourage and maintain quality nursing programs.

## Findings

Based on the data presented in this section, the Advisory Committee on Nursing Education finds:

1. That by law the Alabama Commission on Higher Education and the Alabama Board of Nursing are charged with a similar function--that of evaluating new and existing nursing programs.

2. That the Board of Nursing's review applies only to practical and basic programs.

3. That the Commission on Higher Education's review covers programs at all levels in postsecondary institutions which are funded by state appropriations.

4. That the Board of Nursing has established and recognized criteria for reviewing new and existing practical and basic nursing programs.

5. That the statewide passage rate on the licensing exam for RN candidates in recent years has been 75-80 percent on the first writing; however, the passage rate for LPNs has been considerably higher.

6. That the Board of Nursing has begun to release and publish the mean score and passage rates on the licensing exam of all nursing programs.

7. That locating programs in underserved areas throughout the State in and of itself may not solve the problems of maldistribution of nurses for any long period of time.

8. That public institutions operate under defined role and scope categories which determine program areas and degree levels appropriate for the institutions to offer.

9. That 32 of the 34 basic nursing programs are eligible for accreditation by the National League for Nursing. Of the eligible basic programs, 66 percent are accredited. However, this percentage varies considerably by program level: 90 percent of the eligible baccalaureate, 44 percent of the eligible associate, and 100 percent of the eligible diploma programs are accredited. At this time, all practical nursing programs are eligible to apply for accreditation, but no practical nursing programs are accredited.

10. That accreditation is an expensive, but invaluable process for a nursing program to undertake.

## Recommendations

Based on its findings, the Advisory Committee on Nursing Education recommends:

### To the Alabama Commission on Higher Education and the Alabama Board of Nursing

1. That in the review of new and existing programs, the Commission on Higher Education and the Board of Nursing continue to work cooperatively in eliminating duplication of efforts and providing mutual support to assure quality nursing programs in Alabama. The Board of Nursing should have primary responsibility for reviewing the quality of practical and basic nursing programs. The Commission on Higher Education should expand on the Board of Nursing's review and should also cover graduate level nursing programs.

2. That the cooperative review of nursing programs by the

Commission on Higher Education and the Board of Nursing be evaluated in 1985 for adequacy and effectiveness.

To the Alabama Board of Nursing

1. That the Board of Nursing continue to release and publish the mean scores and passage rates of all nursing programs on the licensing exams.

2. That copies of the Board of Nursing's program evaluations be shared with the Commission on Higher Education.

3. That the following criteria be strengthened or expanded in the Board of Nursing's criteria for evaluating basic and practical nursing programs:

a. The overall ratio of full-time faculty to nursing students in the professional component of the nursing program should not exceed 1:10. In the clinical setting, the ratio of full-time faculty to students should not exceed 1:10. This ratio should be lower in selected clinical settings and will depend upon the level of the student within the program.

b. The educational preparation of the faculty should be as follows:

|  | Type of Program |  |  |  |
|---|---|---|---|---|
|  | LPN | DIPL | ADN | BSN |
| Educational Prep. of Faculty | 75% MSN<br>25% BSN | 10% PHD*<br>90% MSN | 10% PHD*<br>90% MSN | 25% PHD*<br>75% MSN |

* Doctoral Preparation (i.e., Ph.D., Ed.D., DSN)

c. Clinical facilities and resources should:

(1) Be within reasonable traveling time from the program site;

(2) Be available to meet the stated objectives for clinical experience of the nursing program;

(3) Be utilized only by as many programs as can be accommodated without compromising safety and quality of care.

d. Practical and basic nursing programs should achieve an 85 percent or above passage rate or attain the national mean on the State Board Test Pool Examination (SBTPE).

e. Each nursing program should have written admission standards.

To the Alabama Commission on Higher Education

1. That the following criteria be used in the cooperative review of nursing programs with the Board of Nursing:

a. Assess the need for the program;

b. Evaluate the efficiency of the program;

c. Determine whether an educational institution, within its role and scope has the appropriate resources for providing a nursing program.

To the Nursing Programs in Alabama

1. That all nursing programs be accredited by the National League for Nursing.

# CHAPTER V

## CHARGE THREE: CONSIDER THE RACIAL/ETHNIC MINORITY MIX OF REGISTERED AND PRACTICAL NURSES

With respect to this charge, the Advisory Committee set its first goal as identifying information currently available about the racial/ethnic minority mix of nursing from a practice as well as education standpoint. Until sources of information were identified, no analysis could be made.

### Racial/Ethnic Minority Mix of Practitioners

For information on practitioners, the Advisory Committee contacted the Alabama Board of Nursing. On the Board's license renewal forms for RNs and LPNs, there is a question which requests that the licensees identify their "Race/Ethnic Background." Choices are: (1) Caucasion or White; (2) Negro or Black; (3) American Indian/Alaskan Native; (4) Asian or Pacific Islander; (5) Spanish Origin or Descent; (6) Other, with a space for specifying background. Therefore, it seemed that the data required by the Advisory Committee existed in the files of the Alabama Board of Nursing.

However, when a computer run was made to pull this information out of the files, problems with the data became apparent. Only about 50 percent of the RN and LPN practitioners had completed that question on their renewal forms. Thus, no conclusions could be drawn about the total group from this small subgroup.

The Advisory Committee considered the possibility of surveying the active practitioners for this information, but decided against the project for two reasons. Committee members felt that the return rate would be less for a survey conducted by the Commission on Higher Education than it was for the license renewal forms submitted to the Board of Nursing. Additionally, postage for such a venture was estimated at $5,000, and such funds were not available to the Advisory Committee.

## Racial/Ethnic Minority Mix of Nursing Students/Graduates

The logical source of data on enrollments and graduates was the Commission staff who is responsible for collecting data for the Higher Education General Information Survey (HEGIS) conducted annually by the Department of Education. This survey, made of each public and private postsecondary institution, requests data on enrollments and graduations. In examining this data for information on the racial/ethnic minority mix of students and graduates, two important findings were made: (1) There are four categories listed for racial or ethnic background--alien, black, hispanic, and white; and (2) The enrollment reports and degrees conferred count all health fields together. Therefore, unless nursing is the only health program offered by an institution, it is impossible to separate nursing from the other health fields. As a result, the Advisory Committee concluded that no definite statements could be made about the racial/ethnic minority mix of nursing students or graduates, based on existing data.

The Advisory Committee was aware that nationally, racial and ethnic minorities are underrepresented in many health programs in institutions of higher education. However, it was impossible to determine whether this underrepresentation occurs in nursing programs in

Alabama's postsecondary institutions.

## Findings

Based on the data presented in this section, the Advisory Committee on Nursing Education finds:

1. That existing data on the racial/ethnic minority representation is incomplete for nursing students as well as registered and practical nurses in Alabama.

## Recommendations

Based on its findings, the Advisory Committee on Nursing Education recommends:

1. That the Board of Nursing make every effort to improve its data base related to the racial/ethnic minority background of all licensed nursing professionals.

2. That the Commission on Higher Education develop methods of determining the racial/ethnic minority background of nursing students and graduates.

3. That in future data collection and analyses, the Commission on Higher Education include male representation when considering minority mix in nursing.

# APPENDICES

# APPENDIX A

## PUBLIC AND PRIVATE NURSING PROGRAMS IN ALABAMA, 1979

### Doctoral Program

University of Alabama in Birmingham
Birmingham

### Master's Programs

University of Alabama in Birmingham
Birmingham

University of Alabama in Huntsville
Huntsville

### Baccalaureate Degree Programs

Auburn University
Auburn

Auburn University at Montgomery
Montgomery

Jacksonville State University
Lurleen B. Wallace School of Nursing
Jacksonville

*Mobile College
Mobile

*Samford University
Birmingham

Troy State University
Troy

*Tuskegee Institute
Tuskegee

University of Alabama
Capstone College of Nursing
Tuscaloosa

University of Alabama in Birmingham
Birmingham

University of Alabama in Huntsville
Huntsville

University of North Alabama
Florence

University of South Alabama
Mobile

### Associate Degree Programs

Calhoun State Community College
Decatur

Gadsden State Junior College
Gadsden

Lawson State Community College
Birmingham

Jefferson Davis State Junior College
Brewton

Jefferson State Junior College
Birmingham

*Samford University
Birmingham

---

*Denotes program at private institution

## Associate Degree Programs (cont.)

Livingston University
Livingston

*Mobile College
Mobile

Northeast Alabama State Junior College
Rainsville

Northwest Alabama State Junior College
Phil Campbell

*Oakwood College
Huntsville

Southern Union State Junior College
Wadley

Troy State University
Montgomery

Wallace State Community College
Dothan

Wallace State Technical and Community College
Hanceville

## Associate Degree Programs--Post-LPN Only

Bishop State Junior College
Mobile

Chattahoochee Valley State Community College
Phenix City

Wallace State Community College
Selma

## Diploma Programs

*Holy Name of Jesus Hospital
Gadsden

*Providence Hospital
Mobile

*Sylacauga Hospital
Sylacauga

*St. Vincent Hospital
Birmingham

## Practical Nursing Programs

Ayers State Technical College
Anniston

Bessemer State Technical College
Bessemer

Birmingham Metropolitan Area Skills Center
Birmingham

Calhoun State Community College
Decatur

Chauncey Sparks State Technical College
Eufaula

*Cobb Memorial Hospital
Phenix City

---

*Denotes program at private institution

## Practical Nursing Programs (cont.)

Drake State Technical College
Huntsville

*DeKalb County General Hospital
Fort Payne

Gadsden State Technical Institute
Gadsden

Hobson State Technical College
Thomasville

MacArthur State Technical College
Opp

Muscle Shoals State Technical College
Muscle Shoals

Northwest Alabama State Technical College
Hamilton

Nunnelley State Technical College
Childersburg

Opelika State Technical College
Opelika

Reid State Technical College
Evergreen

Shelton State Community College
Tuscaloosa

*Southern Vocational College
Tuskegee

Southwest State Technical College
Mobile

*St. Jude School of Practical Nursing
Montgomery

Trenholm State Technical College
Montgomery

Walker State Technical College
Sumiton

Wallace State Community College
Dothan

Wallace State Community College
Hanceville

Wallace State Community College
Selma .

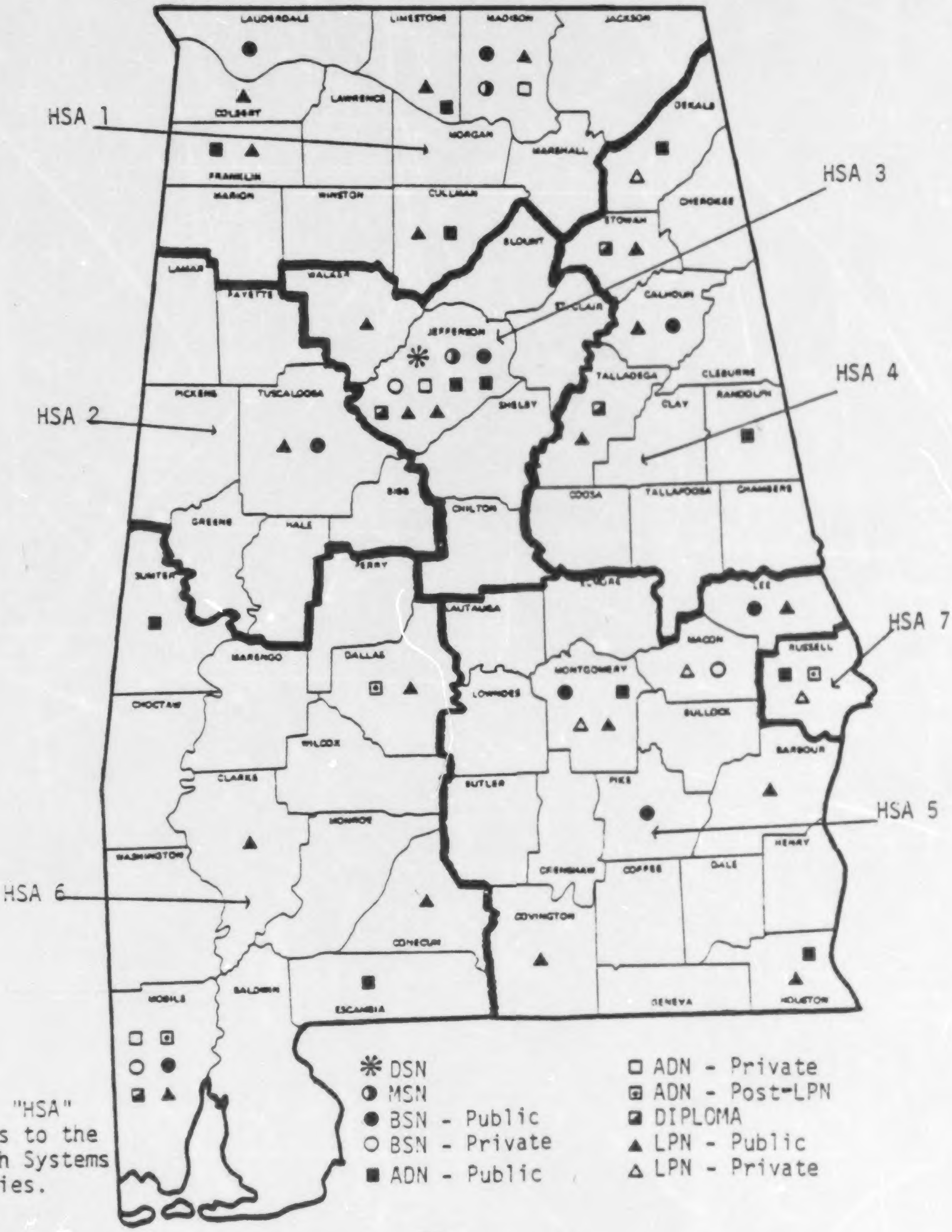
---

*Denotes program at private institution

# APPENDIX B

# GEOGRAPHIC DISTRIBUTION OF EXISTING NURSING PROGRAMS IN ALABAMA, 1979

Public & Private Nursing Programs in Alabama, 1979


HSA 1
HSA 2
HSA 3
HSA 4
HSA 5
HSA 6
HSA 7
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LIMESTONE
MADISON
JACKSON
COLBERT
LAWRENCE
MORGAN
MARSHALL
DEKALB
FRANKLIN
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CHEROKEE
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RANDOLPH
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DALE
COVINGTON
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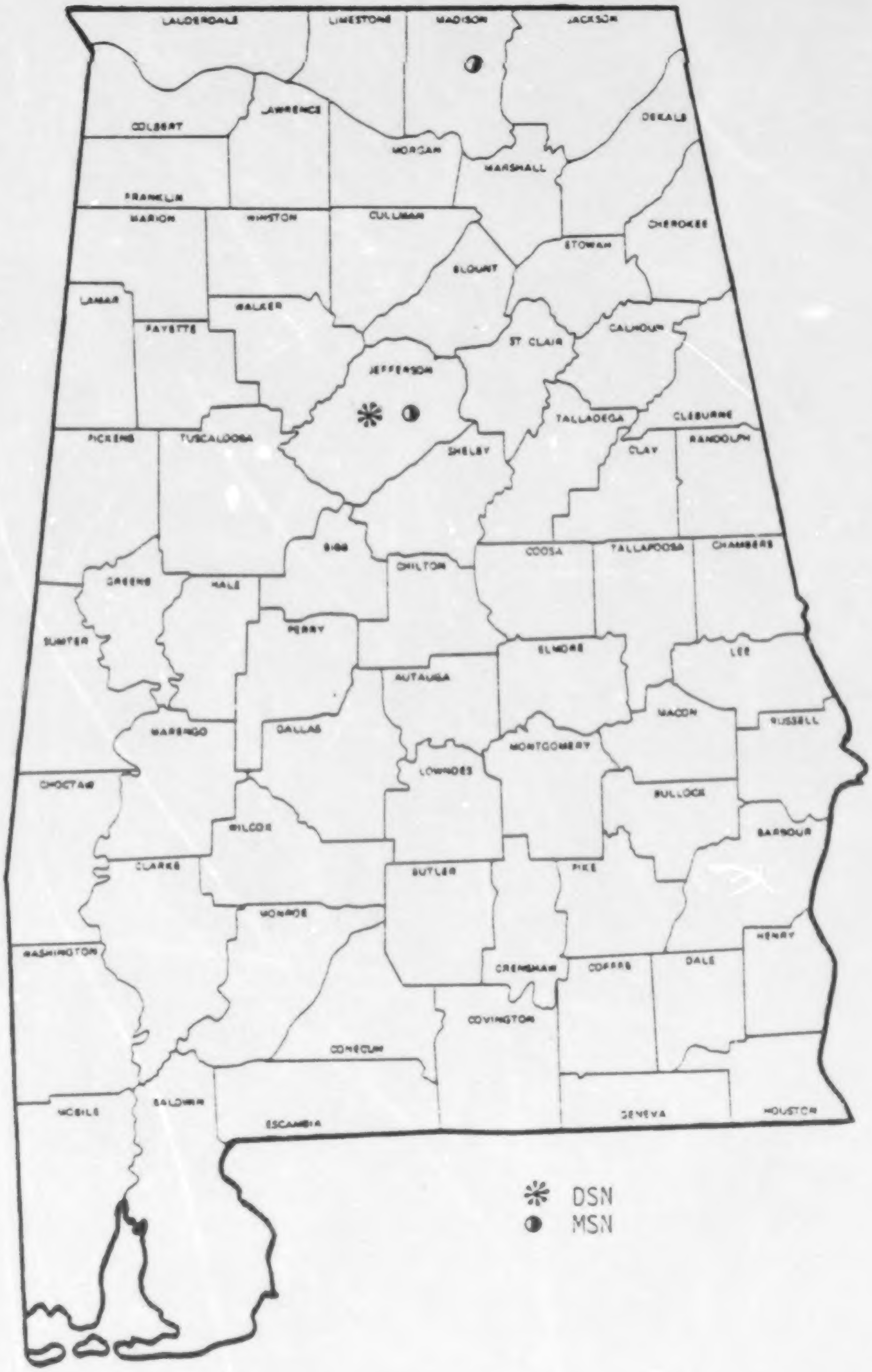
BALDWIN
ESCAMBIA
GENEVA
HOUSTON
✳ DSN
◑ MSN
● BSN - Public
○ BSN - Private
■ ADN - Public
□ ADN - Private
⊡ ADN - Post-LPN
◪ DIPLOMA
▲ LPN - Public
△ LPN - Private

Note: "HSA" refers to the Health Systems Agencies.

Graduate Nursing Programs in Alabama, 1979*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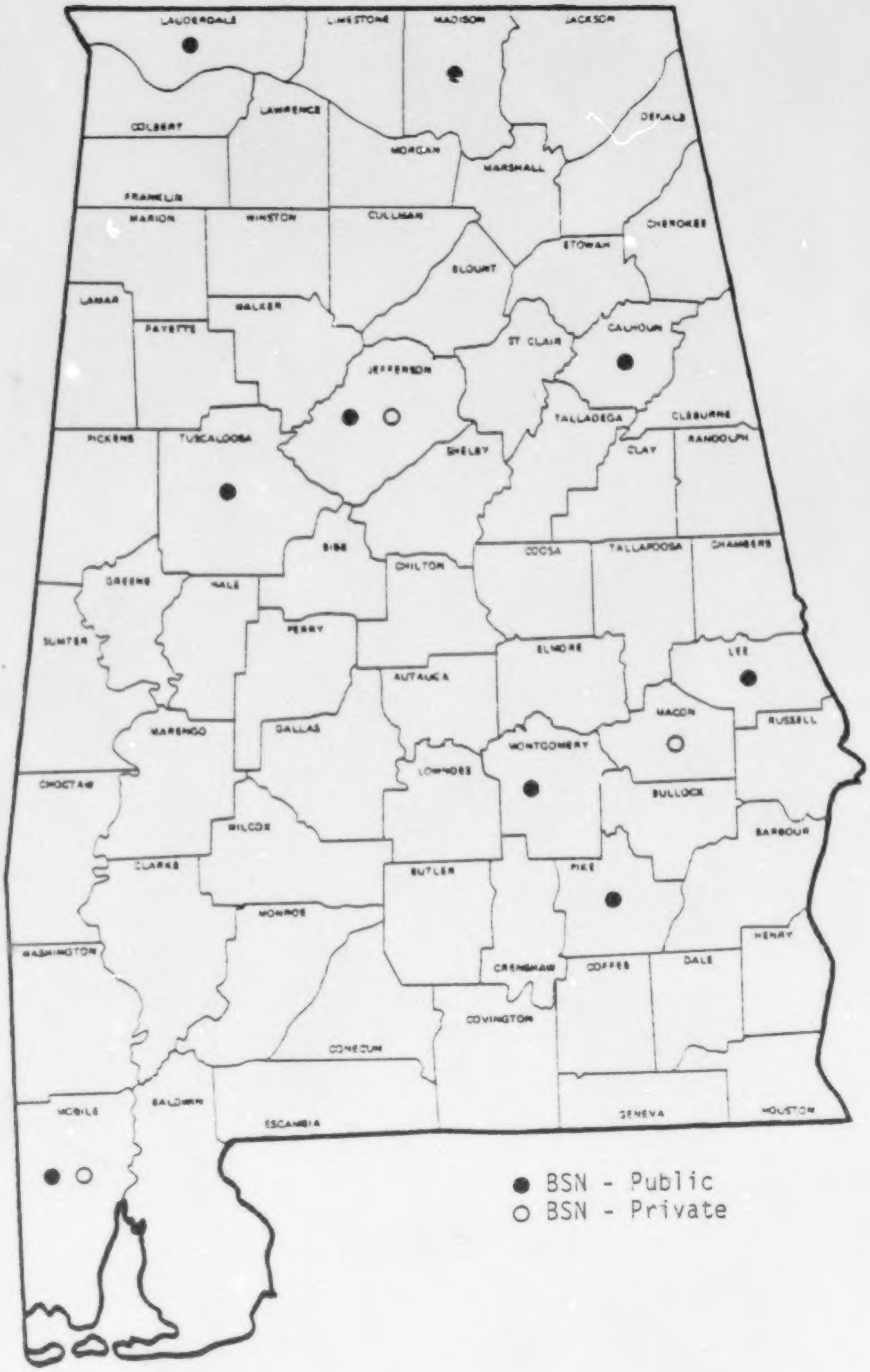
CONECUH
MOBILE
BALDWIN
ESCAMBIA
GENEVA
HOUSTON
❊ DSN
◑ MSN

*Note: All graduate programs are in public institutions.

Baccalaureate Degree Nursing Programs in Alabama, 1979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COFFEE
DALE
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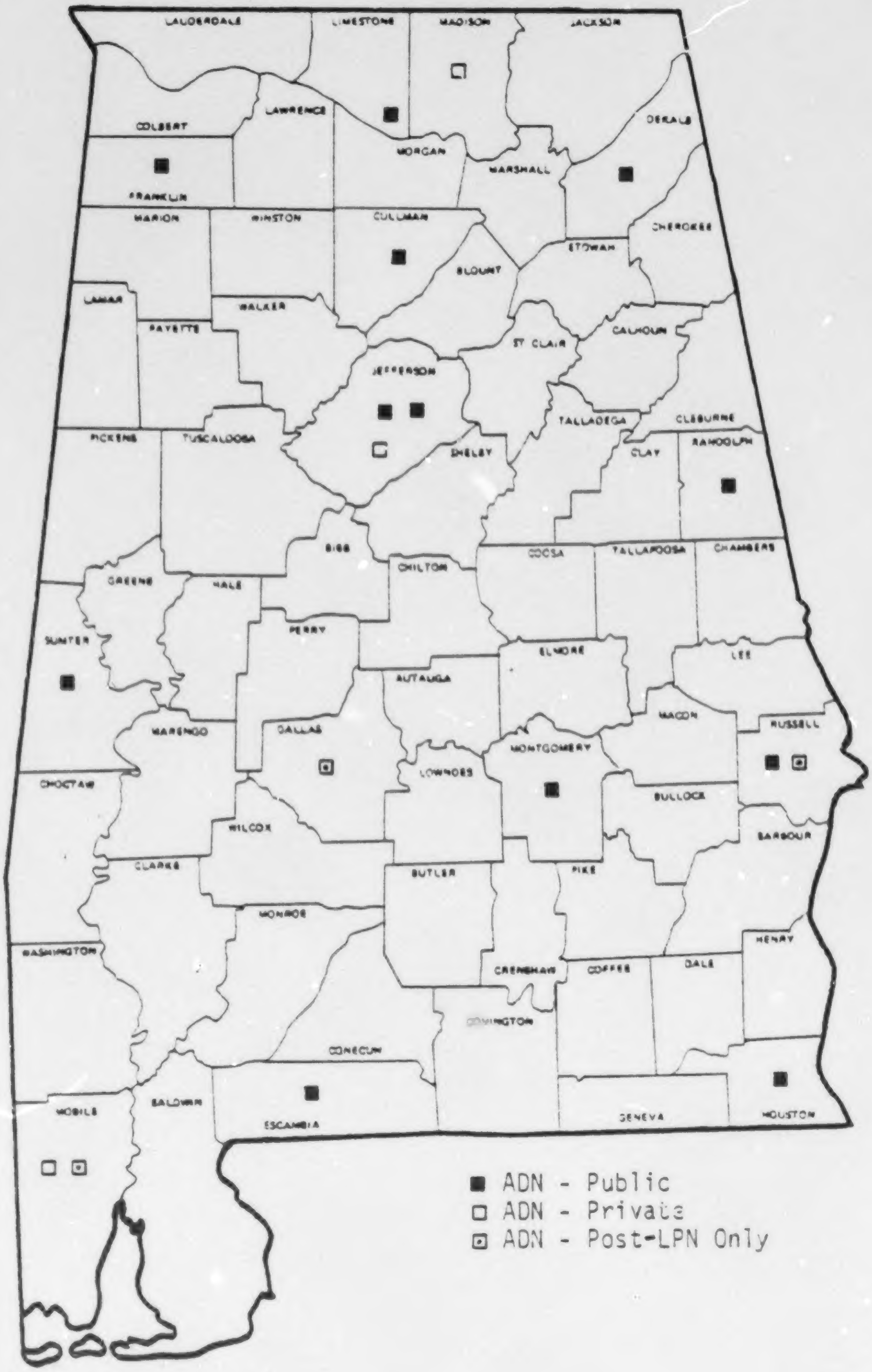
ESCAMBIA
GENEVA
HOUSTON
● BSN - Public
○ BSN - Private

Associate Degree Nursing Programs in Alabama, 1979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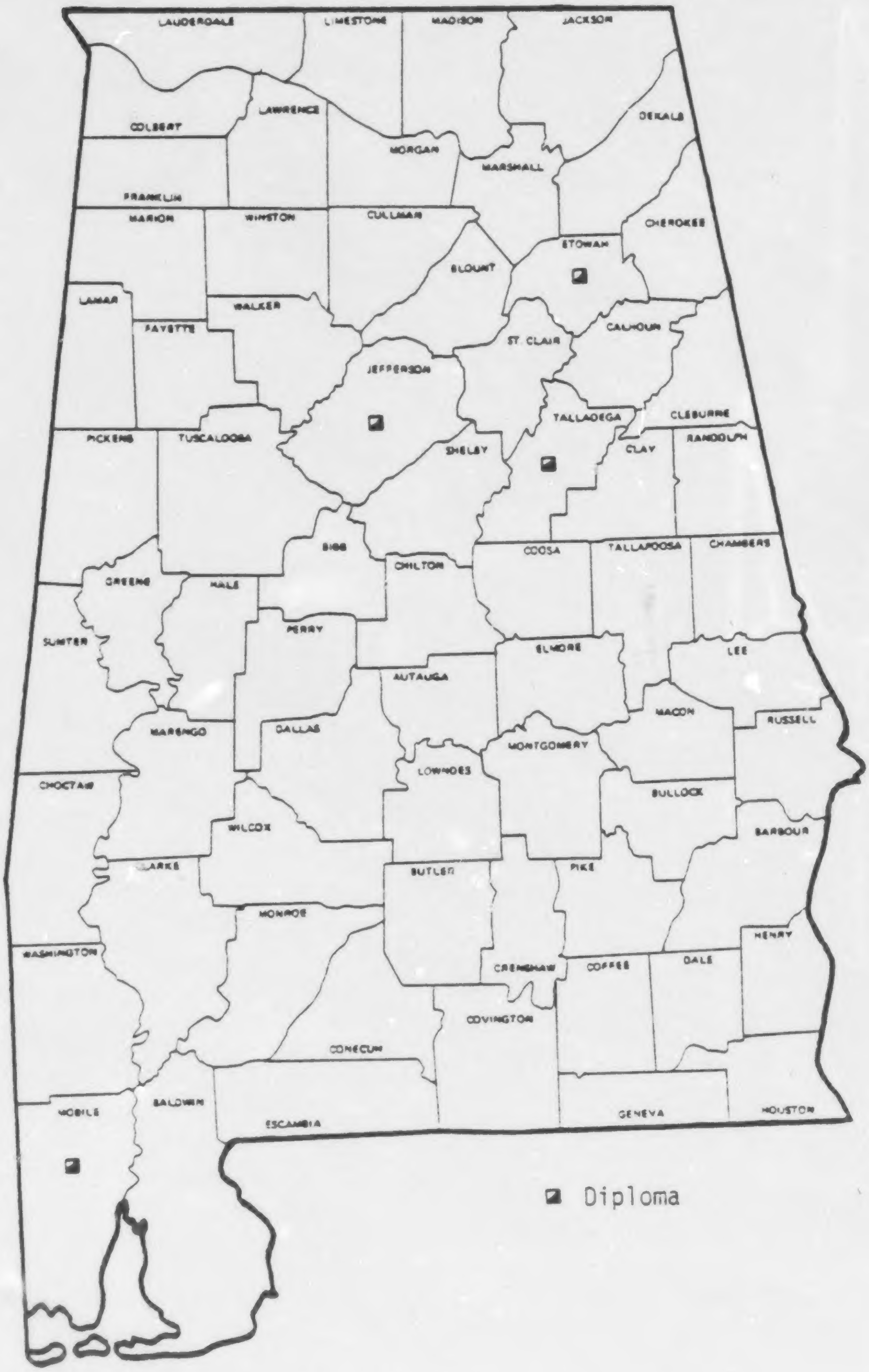
COFFEE
DALE
COVINGTON
CONECUH
HOUSTON
MOBILE
BALDWIN
ESCAMBIA
GENEVA
■ ADN - Public
☐ ADN - Private
⊡ ADN - Post-LPN Only

Diploma Nursing Programs in Alabama, 1979*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TALLADEGA
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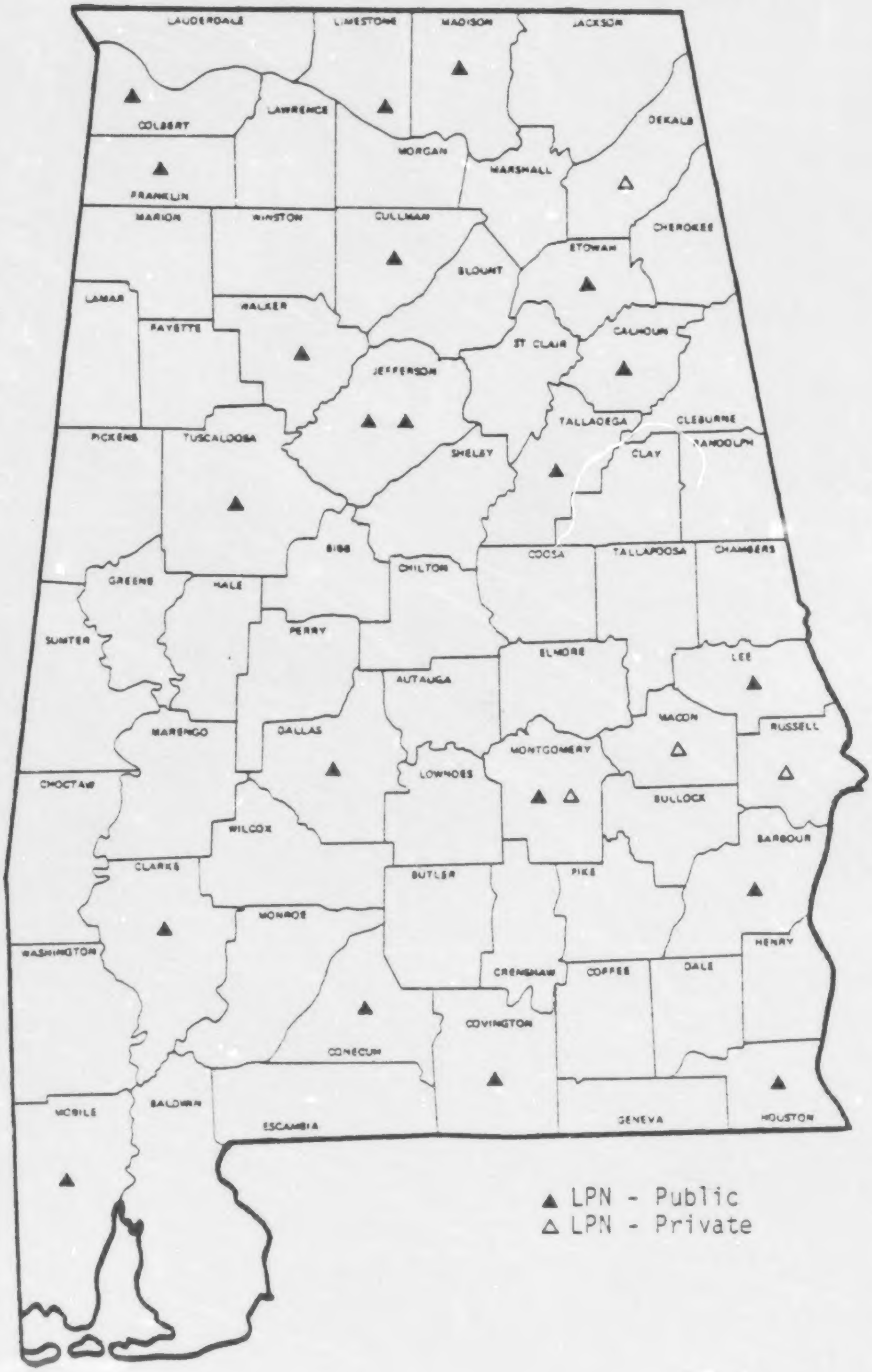
HENRY
WASHINGTON
CRENSHAW
COFFEE
DALE
COVINGTON
CONECUH
MOBILE
BALDWIN
ESCAMBIA
GENEVA
HOUSTON
◪ Diploma

*Note: All diploma programs are private.

## Practical Nursing Programs in Alabama, 1979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CULLMAN
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JEFFERSON
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MONROE
HENRY
WASHINGTON
CRENSHAW
COFFEE
DALE
COVINGTON
CONECUH
MOBILE
BALDWIN
ESCAMBIA
GENEVA
HOUSTON
▲ LPN - Public
△ LPN - Private

## APPENDIX C

## GRADUATIONS FROM ALABAMA NURSING PROGRAMS
## IN SELECTED YEARS
## 1968, 1973, 1978

(Note: "Year" refers to a calendar year, January 1-December 31)

| Program Level | 1968 | 1973 | 1978 |
|---|---|---|---|
| Doctoral Program: | | | |
| UAB | - | - | 0 |
| Total, Doctoral Program | 0 | 0 | 0 |
| Master's Programs: | | | |
| UAB | 29 | 46 | 77 |
| UAH | - | - | 0 |
| Total, Master's Programs | 29 | 46 | 77 |
| Baccalaureate Programs - Generic: | | | |
| Auburn University | - | - | - |
| AUM | - | - | - |
| Jacksonville State University/ Lurleen B. Wallace | - | 15 | 55 |
| *Mobile College | - | - | - |
| *Samford University[46] | - | 1 | 1 |
| Troy State University - Troy | - | 4 | 24 |
| *Tuskegee Institute | 51 | 30 | 37 |
| UAB | 33 | 127 | 191 |
| UAH | - | - | 93 |
| UAT/Capstone | - | - | 53 |
| UNA | - | - | 50 |
| USA | - | - | 66 |
| Total, Generic Baccalaureate Programs | 84 | 177 | 570 |
| Baccalaureate Programs - Post-RN: | | | |
| *Samford University[47] | - | - | 47 |
| Total, Post-RN Baccalaureate Programs | 0 | 0 | 47 |

| Program Level | 1968 | 1973 | 1978 |
|---|---|---|---|
| Associate Degree Programs: | | | |
| Calhoun St. Comm. College | - | 65 | 70 |
| Gadsden St. Junior College | - | 24 | 47 |
| Jefferson Davis St. Jr. Coll. | - | 16 | 34 |
| Jefferson State Jr. College | 15 | 90 | 92 |
| Lawson St. Comm. College | - | 47 | 27 |
| Livingston University | - | - | 15 |
| *Mobile College | - | - | 87 |
| Northeast Al. St. Jr. Coll. | - | - | - |
| Northwest Al. St. Jr. Coll. | - | 26 | 41 |
| *Oakwood College | - | - | 24 |
| *Samford University | - | - | 136 |
| Southern Union St. Jr. Coll. | - | - | - |
| Troy State University - Montg. | - | - | 70 |
| Wallace/Dothan | - | 57 | 43 |
| Wallace/Hanceville | - | - | 23 |
| Subtotal, Associate Degree Programs | 15 | 325 | 709 |
| Associate Degree Programs - Post LPN: | | | |
| Bishop State Jr. College | - | - | 61 |
| Chattahoochee Valley St. Jr. Coll. | - | - | 22 |
| Wallace/Selma | - | - | 30 |
| Subtotal, AD Post-LPN Programs | 0 | 0 | 113 |
| Total, All Associate Degree Programs | 15 | 325 | 822 |
| Diploma Programs: | | | |
| *Anniston | 19 | Closed | Closed |
| *Carraway | 48 | 49 | Closed |
| *Druid City Hospital | 2 | 18 | 22 |
| *Holy Name of Jesus Hospital | 23 | 15 | 17 |
| *Mastin | 19 | 35 | Closed |
| *Mobile Infirmary | 63 | 58 | Closed |
| *Moffett | 46 | 85 | Closed |
| *Providence Hospital | 23 | 23 | 41 |
| *St. Margaret's Hospital | 33 | 31 | Closed |
| *St. Vincent Hospital | 30 | 37 | 57 |
| *Sylacauga Hospital | 20 | 9 | 24 |
| *University Hospital - B'ham | 49 | Closed | Closed |
| Total, Diploma Programs | 375 | 365 | 161 |

| Program Level | 1968 | 1973 | 1978 |
|---|---|---|---|
| Practical Programs: | | | |
| Alabama Christian College | - | 11 | Closed |
| Ayers St. Tech. College | 28 | 38 | 35 |
| B'ham Metro | - | 34 | 58 |
| B'ham Public | 108 | 100 | Closed |
| Bessemer St. Tech. College | 14 | 25 | 136 |
| Butler Co. Education Dept. | 8 | 12 | Closed |
| Calhoun St. Community Coll. | 75 | 33 | 41 |
| Carver St. Tech. College | 16 | Closed | Closed |
| Chauncey Sparks St. Tech. Coll. | 26 | 12 | 13 |
| *Cobb Memorial Hospital | 10 | 15 | 30 |
| *DeKalb County Gen. Hospital | - | - | 14 |
| Drake St. Tech. College | 28 | 60 | 56 |
| Gadsden St. Tech. Institute | - | 5 | 22 |
| *Good Samaritan Hospital | 21 | Closed | Closed |
| Hobson St. Tech. College | 10 | 27 | 31 |
| MacArthur State Tech. Coll. | 13 | 31 | 38 |
| Muscle Shoals St. Tech. Coll. | 16 | 29 | 43 |
| Northwest Al. St. Tech. Coll. | 28 | 27 | 74 |
| Nunnelley St. Tech. Coll. | 15 | 22 | 27 |
| Opelika St. Tech. College | 24 | 36 | 20 |
| Patterson St. Tech. College | 24 | Closed | Closed |
| Reid St. Tech. College | - | 16 | 37 |
| Shelton St. Community Coll. | 20 | 38 | 95 |
| Southwest St. Tech. Coll. | 81 | 74 | 89 |
| *So. Vocational College | - | 30 | 19 |
| *St. Jude School of Prac. Nurs. | 21 | 18 | 14 |
| Trenholm St. Trade School | 13 | 46 | 65 |
| Tuscaloosa St. Trade School | 15 | Closed | Closed |
| Walker St. Tech. College | 12 | 12 | 19 |
| Wallace/Dothan | 37 | 22 | 55 |
| Wallace/Hanceville | 10 | 26 | 51 |
| Wallace/Selma[48] | 8 | 17 | 26 |
| Wenonah Tech. Institute | 38 | 46 | Closed |
| Total, Practical Programs | 719 | 862 | 1,108 |

*Denotes private program.

-Indicates that the program had not yet begun graduating students.

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[46] The Dean of the Samford nursing program estimates that one to two percent of Samford's BSN graduates are generic graduates, and the remaining 98 to 99 percent are post-RN graduates. Therefore, the generic graduate totals were obtained by subtracting one percent from the total BSN graduates, and the post-RN graduate totals were obtained by subtracting 99 percent from the total BSN graduates.

[47] Ibid.

[48] Wallace State Community College in Selma did not exist in 1968. At that time, the campus was known as William Rufus King State Technical Institute.

Note: The number of graduates in a single year does not necessarily equal the number of new nurses entering the work force. Those graduates who fail the licensing exam on the first write cannot practice nursing until they successfully pass the exam.

Source: Graduate Programs, Institutional Survey by Commission Staff. All Other Figures Were Obtained From the Alabama Board of Nursing.

# APPENDIX D

## ENROLLMENTS IN ALABAMA NURSING PROGRAMS IN SELECTED YEARS 1968, 1973, 1978

(Note: Enrollment figure is accurate as of December 31 in indicated year)

| Program Level | 1968 | 1973 | 1978 |
|---|---|---|---|
| Doctoral Program: | | | |
| UAB | - | - | 45 |
| Total, Doctoral Program | 0 | 0 | 45 |
| Master's Programs: | | | |
| UAB | 22 | 73 | 272 |
| UAH | - | - | 14 |
| Total, Master's Programs | 22 | 73 | 286 |
| Baccalaureate Programs - Generic: | | | |
| Auburn University | - | - | - |
| AUM | - | - | - |
| Jacksonville State University/ Lurleen B. Wallace | - | 72 | 292 |
| *Mobile College | - | - | 76 |
| *Samford University[49] | - | 0 | 0 |
| Troy State University - Troy | - | 148 | 245 |
| *Tuskegee Institute | 243 | 269 | 195 |
| UAB | 293 | 726 | 782 |
| UAH | - | 90 | 196 |
| UAT/Capstone | - | - | 503 |
| UNA | - | 45 | 121 |
| USA | - | 0 | 498 |
| Total, Generic Baccalaureate Programs | 536 | 1,350 | 2,908 |
| Baccalaureate Programs - Post-RN: | | | |
| *Samford University[50] | - | - | 192 |
| Total, Post-RN Baccalaureate Programs | 0 | 0 | 192 |

| Program Level | 1968 | 1973 | 1978 |
|---|---|---|---|
| Associate Degree Programs: | | | |
| Calhoun St. Comm. College | 31 | 183 | 172 |
| Gadsden St. Junior College | 36 | 86 | 123 |
| Jefferson Davis St. Jr. Coll. | - | 18 | 27 |
| Jefferson State Jr. Coll. | 92 | 141 | 142 |
| Lawson St. Comm. Coll. | - | 114 | 106 |
| Livingston University | - | - | 30 |
| *Mobile College | - | 93 | 159 |
| Northeast Al. St. Jr. Coll. | - | - | 38 |
| Northwest Al. St. Jr. Coll. | - | 57 | 86 |
| *Oakwood College | - | 35 | 51 |
| *Samford University | - | 150 | 388 |
| Southern Union St. Jr. Coll. | - | - | 39 |
| Troy State University - Montg. | - | 104 | 65 |
| Wallace/Dothan | - | 96 | 152 |
| Wallace/Hanceville | - | 24 | 52 |
| Subtotal, Associate Degree Programs | 159 | 1,101 | 1,630 |
| Associate Degree Programs - Post-LPN: | | | |
| Bishop St. Jr. College | - | - | 30 |
| Chattahoochee Valley St. Jr. Coll. | - | - | 30 |
| Wallace/Selma | - | 29 | 27 |
| Subtotal, AD Post-LPN Programs | 0 | 29 | 87 |
| Total, All Associate Degree Programs | 159 | 1,130 | 1,717 |
| Diploma Programs: | | | |
| *Anniston | 28 | Closed | Closed |
| *Carraway | 52 | 108 | Closed |
| *Druid City Hospital | 53 | 89 | Closed |
| *Holy Name of Jesus Hospital | 51 | 55 | 38 |
| *Mastin | 84 | 188 | Closed |
| *Mobile Infirmary | 85 | 85 | Closed |
| *Moffett | 154 | 87 | Closed |
| *Providence Hospital | 67 | 115 | 98 |
| *St. Margaret's Hospital | 108 | 30 | Closed |
| *St. Vincent Hospital | 95 | 182 | 177 |
| *Sylacauga Hospital | 56 | 82 | 84 |
| *University Hospital - B'ham | 42 | Closed | Closed |
| Total, Diploma Programs | 875 | 1,021 | 397 |

| Program Level | 1968 | 1973 | 1978 |
|---|---|---|---|
| Practical Programs: | | | |
| Alabama Christian College | - | 15 | Closed |
| Ayers St. Tech. College | 32 | 69 | 40 |
| B'ham Metro | - | 55 | 79 |
| B'ham Public | 123 | 0 | Closed |
| Bessemer St. Tech. Coll. | 42 | 157 | 149 |
| Butler Co. Education Dept. | 11 | 0 | Closed |
| Calhoun St. Comm. Coll. | 65 | 52 | 45 |
| Carver St. Tech. College | 29 | Closed | Closed |
| Chauncey Sparks St. Tech. Coll. | 21 | 12 | 17 |
| *Cobb Memorial Hospital | 14 | 17 | 33 |
| *DeKalb County Gen. Hosp. | - | - | 14 |
| Drake St. Tech. College | 18 | 72 | 66 |
| Gadsden St. Tech. Institute | 10 | 12 | 29 |
| *Good Samaritan Hospital | 16 | Closed | Closed |
| Hobson St. Tech. College | 11 | 33 | 35 |
| MacArthur State Tech. Coll. | 21 | 46 | 60 |
| Muscle Shoals St. Tech. Coll. | 32 | 33 | 44 |
| Northwest Al. St. Tech. Coll. | 16 | 28 | 81 |
| Nunnelley St. Tech. College | 23 | 21 | 27 |
| Opelika St. Tech. College | 13 | 29 | 39 |
| Patterson St. Tech. Coll. | 21 | Closed | Closed |
| Reid St. Tech. College | 10 | 36 | 46 |
| Shelton St. Comm. Coll. | 22 | 32 | 98 |
| Southwest St. Tech. Coll. | 76 | 118 | 177 |
| *So. Vocational College | - | 15 | 21 |
| *St. Jude School of Prac. Nurs. | 16 | 16 | 10 |
| Trenholm St. Tech. Coll. | 30 | 52 | 119 |
| Tuscaloosa St. Trade School | 22 | Closed | Closed |
| Walker St. Tech. College | 15 | 20 | 36 |
| Wallace/Dothan | 47 | 22 | 39 |
| Wallace/Hanceville | 17 | 16 | 28 |
| Wallace/Selma[51] | 7 | 40 | 20 |
| Wenonah Tech. Institute | 18 | 0 | Closed |
| Total, Practical Programs | 798 | 1,018 | 1,352 |

*Denotes private program.

-Indicates that the program had not yet begun enrolling students.

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[49] In 1978, the enrollment in the junior and senior years of Samford's BSN program was 192. This figure may include a few generic BSN students; however, since the majority of the enrollment is Post-RN, the 192 students were placed in the Post-RN category.

[50] Ibid.

[51] Wallace State Community College in Selma did not exist in 1968. At that time, the campus was known as William Rufus King State Technical Institute.

Source: Graduate Programs, Institutional Survey by Commission Staff. All Other Figures Were Obtained from the Alabama Board of Nursing.

# APPENDIX E

FULL-TIME FACULTY:STUDENT RATIOS, BY EDUCATIONAL PREPARATION AND PROGRAM LEVEL[52]
IN ALABAMA NURSING PROGRAMS
(As of December 31, 1979)

| Program Level | Doctoral | MSN | MS-Other | BSN | BS-Other | ADN | DIPL | Total Faculty | Fall '79 Headcount in Total Program | Fall '79 Headcount in Prof. Component | Fac:Stu Ratio in Prof. Component |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Doctoral | | | | | | | | | | | |
| UAB[53] | 6.0 | - | - | - | - | - | - | 6.0 | # | 49 | 1:8.16 |
| Average Full-time Faculty:Student Overall Ratio in Doctoral Nursing Program -- 1:8.16 | | | | | | | | | | | |
| Master's | | | | | | | | | | | |
| UAB[54] | 5.0 | 17.0 | - | - | - | - | - | 22.0 | # | 320 | 1:14.54 |
| UAH | 0.2 | 1.6 | 0.4 | - | - | - | - | 2.2 | # | 14 | 1:6.36 |
| Average Full-time Faculty:Student Overall Ratio in Master's Nursing Programs -- 1:13.80 | | | | | | | | | | | |
| Baccalaureate | | | | | | | | | | | |
| 2-Yr Professional Component | | | | | | | | | | | |
| Auburn University | 1.0 | 3.0 | - | - | - | - | - | 4.0 | 122 | 27 | 1:6.75 |
| AUM | 2.0 | 3.0 | - | - | - | - | - | 5.0 | 333 | 33 | 1:6.60 |
| *Mobile College[55] | 3.0 | 1.0 | - | - | - | - | - | 4.0 | 191 | 36 | 1:9.00 |
| UAH | 0.8 | 14.4 | 3.6 | 7.0 | - | - | - | 25.8 | 346 | 231 | 1:8.95 |
| *Samford University[56] | 1.0 | 24.0 | 8.0 | - | - | - | - | 18.0 | CANNOT COMPUTE | | |
| 3-Yr Professional Component | | | | | | | | | | | |
| UAB[57] | 7.0 | 61.0 | 3.0 | 4.0 | - | - | - | 75.0 | Not Cal. | 607 | 1:8.09 |
| UAT/Capstone | 5.0 | 17.0 | 1.0 | - | - | - | - | 24.0 | 503 | 160 | 1:6.66 |
| USA | 2.0 | 14.0 | 5.0 | 1.0 | - | - | - | 22.0 | 556 | 188 | 1:8.54 |
| Troy State University | 1.0 | 14.0 | 1.0 | 2.0 | - | - | - | 18.0 | 263 | 146 | 1:8.11 |

| Program Level | Doc-toral | MSN | MS-Other | BSN | BS-Other | ADN | DIPL | Total Faculty | Fall '79 Headcount in Total Program | Fall '79 Headcount in Prof. Component | Fac:Stu Ratio in Prof. Component |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4-Yr Professional Component | | | | | | | | | | | |
| Jacksonville/L. B. Wallace | - | 17.0 | - | - | - | - | - | 17.0 | # | 251 | 1:14.76 |
| *Tuskegee Institute | 1.0 | 9.0 | 5.0 | 5.0 | - | - | - | 20.0 | # | 240 | 1:12.00 |
| UNA | 1.0 | 8.0 | 2.0 | 2.0 | - | - | - | 13.0 | # | 145 | 1:11.15 |
| Average Full-time Faculty:Student Overall Ratio in Baccalaureate Nursing Programs -- 1:9.06 | | | | | | | | | | | |
| Associate Degree | | | | | | | | | | | |
| Bishop State Junior College | - | 1.0 | - | 4.0 | - | - | - | 5.0 | # | 30 | 1:6.00 |
| Calhoun State Comm. College | 1.0 | 6.0 | 1.0 | 3.0 | - | 1.0 | - | 12.0 | # | 204 | 1:17.00 |
| Chattahoochee Valley | - | 2.0 | - | 1.0 | - | - | - | 3.0 | # | 30 | 1:10.00 |
| Gadsden State Junior College | - | 5.0 | 1.0 | 5.0 | 1.0 | - | 1.0 | 13.0 | # | 163 | 1:12.53 |
| Jeff Davis State Junior College | - | 2.0 | - | 1.0 | - | - | - | 3.0 | # | 35 | 1:11.66 |
| Jeff State Junior College | - | 10.0 | 2.0 | 2.0 | 1.0 | - | - | 15.0 | # | 200 | 1:13.33 |
| Lawson State Community College | - | 4.0 | 2.0 | 2.0 | - | - | - | 8.0 | # | 87 | 1:10.87 |
| Livingston University | 1.0 | 3.0 | 1.0 | - | - | - | - | 5.0 | # | 44 | 1:8.80 |
| *Mobile College[58] | 1.0 | 6.0 | - | 1.0 | 5.0 | - | - | 13.0 | # | 177 | 1:13.61 |
| Northeast Alabama State Jr. Coll. | - | 1.0 | - | 1.0 | - | - | - | 2.0 | # | 42 | 1:21.00 |
| Northwest Alabama State Jr. Coll. | - | 1.0 | 2.0 | 2.0 | 1.0 | - | - | 6.0 | # | 77 | 1:12.83 |
| *Oakwood College | - | 5.0 | - | 1.0 | - | - | - | 6.0 | # | 34 | 1:5.66 |
| *Samford University[59] | 1.0 | 24.0 | 8.0 | - | - | - | - | 33.0 | CANNOT COMPUTE | | |
| Southern Union St. Jr. College | - | 3.0 | - | 3.0 | - | - | - | 6.0 | # | 39 | 1:6.50 |
| Troy/Montgomery | - | 13.0 | 5.0 | 7.0 | - | - | - | 25.0 | # | 307 | 1:12.28 |
| Wallace/Dothan | - | 4.0 | - | 6.0 | - | - | - | 10.0 | # | 173 | 1:17.30 |
| Wallace/Hanceville | - | 1.0 | - | 3.0 | - | - | - | 4.0 | # | 62 | 1:15.50 |
| Wallace/Selma | - | 1.0 | 2.0 | - | - | - | - | 3.0 | # | 31 | 1:10.33 |
| Average Full-time Faculty:Student Overall Ratio in Associate Degree Nursing Programs -- 1:12.48 | | | | | | | | | | | |
| Diploma | | | | | | | | | | | |
| *Holy Name of Jesus Hospital | - | 3.0 | - | 2.0 | 1.0 | - | 1.0 | 7.0 | # | 54 | 1:7.71 |
| *Providence Hospital | - | - | - | 8.0 | - | - | 1.0 | 9.0 | # | 97 | 1:10.77 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Sylacauga Hospital | - | 1.0 | 4.0 | 2.0 | 2.0 | - | 4.0 | 13.0 | # | 90 | 1:6.92 |
| *St. Vincent Hospital | - | 6.0 | 4.0 | 10.0 | 1.0 | - | 2.0 | 23.0 | # | 167 | 1:7.26 |
| Average Full-time Faculty:Student Overall Ratio in Diploma Nursing Programs -- 1:7.84 | | | | | | | | | | | |
| Practical | | | | | | | | | | | |
| Ayers State Technical College | - | - | - | 3.0 | - | - | - | 3.0 | # | 46 | 1:15.33 |
| B'ham Metro | - | - | - | 5.0 | - | - | - | 5.0 | # | 71 | 1:14.20 |
| Bessemer State Tech. College | - | - | 1.0 | - | 3.0 | 3.0 | 2.0 | 9.0 | # | 135 | 1:15.00 |
| Calhoun State Comm. College | - | - | - | - | 2.0 | - | 2.0 | 4.0 | # | 39 | 1:9.75 |
| Chauncey Sparks St. Tech. Coll. | - | - | - | 1.0 | - | - | - | 1.0 | # | 18 | 1:18.00 |
| *Cobb Memorial Hospital | - | - | - | 1.0 | 1.0 | 1.0 | 2.0 | 5.0 | # | 38 | 1:7.60 |
| *DeKalb County Gen. Hospital | - | - | - | 1.0 | - | - | - | 1.0 | # | 15 | 1:15.00 |
| Drake State Tech. College | - | - | - | - | 3.0 | - | 2.0 | 5.0 | # | 72 | 1:14.40 |
| Gadsden State Tech. College | - | - | - | 1.0 | - | - | 1.0 | 2.0 | # | 35 | 1:17.50 |
| Hobson State Tech. College | - | - | - | - | 1.0 | 1.0 | 1.0 | 3.0 | # | 44 | 1:14.66 |
| MacArthur State Tech. College | - | - | - | - | 1.0 | - | 3.0 | 4.0 | # | 60 | 1:15.00 |
| Muscle Shoals State Tech. College | - | - | 1.0 | 1.0 | - | 1.0 | - | 3.0 | # | 44 | 1:14.66 |
| Northwest Alabama St. Tech. Coll. | - | - | 2.0 | - | 1.0 | - | - | 3.0 | # | 65 | 1:21.66 |
| Nunnelley State Tech. College | - | - | - | - | - | - | 3.0 | 3.0 | # | 46 | 1:15.33 |
| Opelika State Tech. College | - | - | - | 1.0 | 1.0 | - | - | 2.0 | # | 36 | 1:18.00 |
| Reid State Technical College | - | - | - | 3.0 | - | - | - | 3.0 | # | 64 | 1:21.33 |
| Shelton State Comm. College | - | - | 1.0 | 2.0 | - | - | 4.0 | 7.0 | # | 126 | 1:18.00 |
| Southwest State Tech. College | - | 1.0 | - | 6.0 | 1.0 | - | 4.0 | 12.0 | # | 188 | 1:15.66 |
| *Southern Vocational College | - | 1.0 | - | 3.0 | - | - | - | 4.0 | # | 24 | 1:6.00 |
| *St. Jude School of Prac. Nurs. | - | - | - | 1.0 | - | - | - | 1.0 | # | 17 | 1:17.00 |
| Trenholm State Tech. College | - | - | 1.0 | 4.0 | 3.0 | - | - | 8.0 | # | 123 | 1:15.37 |
| Walker State Tech. College | - | - | - | 2.0 | - | - | - | 2.0 | # | 39 | 1:19.50 |
| Wallace/Dothan | - | - | - | 2.0 | - | - | 2.0 | 4.0 | # | 50 | 1:12.50 |
| Wallace/Hanceville | - | - | - | 3.0 | - | - | 1.0 | 4.0 | # | 44 | 1:11.00 |
| Wallace/Selma | - | - | - | 2.0 | - | - | - | 2.0 | # | 34 | 1:17.00 |

Average Full-time Faculty:Student Overall Ratio in Practical Nursing Programs -- 1:14.73

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*Denotes private program.

#Headcount in the total program is the same as the headcount in the professional component except in 2-year and 3-year professional component baccalaureate programs.

[52] As of December 31, 1979, there were 53 part-time instructors in nursing programs in the State. These part-time instructors are not calculated in the faculty:student ratios.

[53] Four faculty participate in both the master's and doctoral programs.

[54] Ibid.

[55] One Ed.D. faculty member and one MSN faculty member participate in both the BSN and ADN programs.

[56] Because of the nature of the nursing program at Samford, it is impossible to calculate separate faculty:student ratios for the baccalaureate and associate degree programs.

[57] UAB does not differentiate between total enrollment and enrollment in the professional component, even though students are not admitted into the professional component until the sophomore year.

[58] One Ed.D. faculty member and one MSN faculty member participate in both the BSN and ADN programs.

[59] Because of the nature of the nursing program at Samford, it is impossible to calculate separate faculty:student ratios for the baccalaureate and associate degree programs.

# APPENDIX F

## EQUATIONS FOR PROJECTING NURSING REQUIREMENTS[60]
(In Full-time Equivalents)

1. Direct Client Care RNs

   A. Hospital Inpatient Services:

      population x beds per population x occupancy rate x RNs per patients

   B. Other Hospital Services:

      population x services per population x RNs per services

   C. Nursing Homes:

      population over 64 x beds per population over 64 x RNs per beds

   D. Physicians' Offices:

      number of MDs x RNs per MDs

   E. Independent/Group Practices:

      population x services per population x RNs per services

   F. Community Health:

      population cohort x RNs per population cohort

2. LPNs

   A. Number of direct client care RNs x LPNs per direct client care RNs

3. Nursing-Service Administrators

   A. Executive Nurse Administrators:

      number of health-care institutions x administrators per institution

   B. Mid-Level Nurse Administrators:

      number of direct client care RNs x administrators per direct client care RNs

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[60] Gray, Robert and Sauer, Ken, Nursing Resources and Requirements: A Guide for State-Level Planning (Boulder, CO: Western Interstate Commission for Higher Education and National Center for Higher Education Management Systems, 1977), p. 104.

4. Nursing Educators
    A. Faculty:

    number of nursing students x faculty per students

    B. Administrators:

    number of faculty x administrators per faculty

5. Researchers, Instructors, and Consultants
    A. Number of large hospitals x RNs per large hospital

6. RNs in Health-Related Organizations
    A. Population x RNs per population

7. Private Duty RNs
    A. Population x RNs per population

# APPENDIX G

## COMPUTER RUN - REQUIREMENTS CALCULATIONS

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                                                                      PAGE  1
                        ANALYSIS AND PLANNING
       FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                   REQUIREMENTS CALCULATION SOFTWARE
                   DIRECT CLIENT CARE NURSING PERSONNEL
                               REPORT 1
------------------------------------------------------------------------------
   YEAR - 1984
   REGION - ALABAMA
   2ND PROJECTION RUN
                    DEMOGRAPHIC DATA  (ASSUMPTION 1)

           GENERAL POPULATION                       INFANT STATISTICS

      1. UNDER 17 YEARS     1642220         4. LIVE BIRTHS            57000
      2. AGE 17 - 64        2531734         5. DEATHS - ONE MONTH
      3. OVER 64 YEARS       451742            TO ONE YEAR OF AGE       250
              TOTAL         4625696

                     (ASSUMPTION 2) (ASSUMPTION 3) (ASSUMPTION 4)        (ASSUMPTION 5)
  INPATIENT SERVICES   BEDS/10000    OCCUPANCY     RNS/ 100    TOTAL   LPNS/             TOTAL
                       POPULATION      RATE        PATIENTS   FTE RNS  10 RNS            LPNS
   LONG TERM HOSPITALS

1.   PSYCHIATRIC              5.81      75.1           4.70      139    18.0              251
     ALL OTHER LONG TERM
2.     GENERAL MED-SURG UNIT  0.0        0.0           0.0         0     0.0                0
3.     CRITICAL CARE UNIT     0.0        0.0           0.0         0     0.0                0
4.     SELF CARE UNIT         0.0        0.0           0.0         0     0.0                0
5.     EXTENDED CARE UNIT     0.0        0.0           0.0         0     0.0                0
6.     REHABILITATION UNIT    0.0        0.0           0.0         0     0.0                0
7.   MR/DEVELOPMENTAL CENTERS 4.66      95.0           3.00       53    10.0               53

   SHORT TERM HOSPITALS

8.   SMALL,UNDER 100 BEDS    11.19      63.3          63.00     1796     6.7             1204
     LARGE,OVER 400 BEDS,TEACHING
9.     NEWBORN UNIT           1.17      52.2          48.12      118     8.2               97
10.    GENERAL MED-SURG UNIT 13.52      75.6          73.93     3042     5.4             1643
11.    CRITICAL CARE UNIT     1.24      73.1         280.00     1022     2.5              255
12.    SELF CARE UNIT         0.0        0.0           0.0         0     0.0                0
13.    EXTENDED CARE UNIT     0.76      92.4          13.12       37    30.0              111
14.    REHABILITATION UNIT    0.30      66.4          63.00       52     6.7               35
15.    PSYCHIATRIC UNIT       2.22      67.5          63.00      380     2.5               95
     ALL OTHER SHORT TERM
16.    NEWBORN UNIT           2.14      35.6          48.12      148     8.2              121
17.    GENERAL MED-SURG UNIT 23.42      57.6          73.93     4015     5.4             2168
18.    CRITICAL CARE UNIT     1.37      33.0         280.00      510     2.5              127
19.    SELF CARE UNIT         0.0        0.0           0.0         0     0.0                0
20.    EXTENDED CARE UNIT     0.12      22.0          13.12        1    30.0                4
21.    REHABILITATION UNIT    0.0        0.0           0.0         0     0.0                0
22.    PSYCHIATRIC UNIT       0.80      49.8          63.00      101     2.5               25

   TOTAL HOSPITAL INPATIENT                                    11414                     6189
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                         ANALYSIS AND PLANNING
        FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                  REQUIREMENTS CALCULATION SOFTWARE
                  DIRECT CLIENT CARE NURSING PERSONNEL
                        REPORT 1  (CONTINUED)
-------------------------------------------------------------------------------------------

                           (ASSUMPTION 6)  (ASSUMPTION 7)          (ASSUMPTION 8)
                           SERVICES/10000    RNS/1000      TOTAL   LPNS/                  TOTAL
OTHER HOSPITAL SERVICES      POPULATION      SERVICES     FTE RNS  10 RNS                 LPNS
  SURGICAL OPERATIONS          1015.29         1.50          613     0.0                     0
  EMERGENCY VISITS             3838.57         0.50          773     8.0                   618
  OUTPATIENT CLINIC VISITS      436.59         0.15           26    10.0                    26

TOTAL OTHER HOSPITAL SERVICES                               1412                           644

TOTAL HOSPITAL-BASED
DIRECT CLIENT CARE                                         12826                          6833


                    (ASSUMPTION 9) (ASSUMPTION 10) (ASSUMPTION 11)         (ASSUMPTION 12)
                      BEDS/10000     OCCUPANCY         RNS/100      TOTAL   LPNS/                TOTAL
                     POP. OVER 64      RATE           RESIDENTS    FTE RNS  10 RNS               LPNS
NURSING HOMES

  NURSING CARE HOMES     450.00        95.0              5.00         966    25.0                2414

  DOMICILIARY             16.35        95.0              0.0            0     0.0                   0

TOTAL NURSING HOME-BASED
DIRECT CLIENT CARE                                                    966                        2414


                                                                 (ASSUMPTION 13)
                    (ASSUMPTION 13)  (ASSUMPTION 13)      TOTAL        LPNS/                     TOTAL
                      NO. OF MDS      RNS/ 10 MDS        FTE RNS      10 RNS                     LPNS
PHYSICIANS OFFICES       4216             3.50             1476        10.0                      1476


                             (ASSUMPTION 14)  (ASSUMPTION 14)           (ASSUMPTION 14)
                              VISITS/ 10000     RNS/ 10000     TOTAL     LPNS/                      TOTAL
INDEPENDENT/       POPULATION  POPULATION         VISITS      FTE RNS   10 RNS                      LPNS
GROUP PRACTICE       4025696     0.0               0.0           0       0.0                           0
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ANALYSIS AND PLANNING
FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
REQUIREMENTS CALCULATION SOFTWARE
DIRECT CLIENT CARE NURSING PERSONNEL
REPORT 1 (CONTINUED)

| | | POPULATION COHORT | (FROM ASSUMPTION 1) POPULATION | (ASSUMPTION 15) RNS/ 10000 POPULATION | TOTAL FTE RNS | (ASSUMPTION 16) LPNS/ 10 RNS | TOTAL LPNS |
|---|---|---|---|---|---|---|---|
| | COMMUNITY HEALTH | | | | | | |
| 1. | HOME HEALTH CARE | TOTAL POPULATION | 4025696 | 2.57 | 1035 | 0.0 | 0 |
| 2. | | POPULATION OVER 64 YEARS | 451742 | 9.69 | 438 | 0.0 | 0 |
| 3. | GENERAL HOME VISITS | LIVE BIRTHS | 57000 | 2.72 | 16 | 0.0 | 0 |
| 4. | | INFANT DEATHS | 250 | 7.20 | 0 | 0.0 | 0 |
| 5. | | POPULATION UNDER 17 YEARS | 1042220 | 1.36 | 142 | 0.0 | 0 |
| 6. | | POPULATION 17 YEARS AND OVER | 2983476 | 7.27 | 2169 | 0.0 | 0 |
| 7. | HEALTH CLINIC CARE | TOTAL POPULATION | 4025696 | 0.79 | 318 | 0.0 | 0 |
| 8. | SCHOOL HEALTH | POPULATION UNDER 17 YEARS | 1042220 | 7.67 | 799 | 0.0 | 0 |
| 9. | INDUSTRIAL HEALTH | POPULATION 17 THROUGH 64 YEARS | 2531734 | 2.26 | 572 | 0.0 | 0 |
| 10. | OTHER | TOTAL POPULATION | 4025696 | 0.0 | 0 | 0.0 | 0 |
| | TOTAL PUBLIC HEALTH | | | | 5489 | | 0 |

NOTE: Although the Advisory Committee felt that 5489 represented the true needs for registered nurses in the public health setting in 1984, it was recognized that there were only 550 registered nurses employed in public health in 1979. Realizing that a goal of 5489 nurses could never be met by 1984, the Advisory Committee arbitrarily set a 100 percent increase over the actual number of registered nurses employed in public health in 1979, or 1100 registered nurses, as a desired short-term goal for 1984.

REVISED TOTAL PUBLIC HEALTH FTE RNS - 1100

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                         ANALYSIS AND PLANNING
      FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                  REQUIREMENTS CALCULATION SOFTWARE
                  DIRECT CLIENT CARE RNS - EDUCATION
                             REPORT 2
-------------------------------------------------------------------------------------------------

     YEAR - 1984
     REGION - ALABAMA
     2ND PROJECTION RUN

                                     EDUCATIONAL VECTOR                     NO. OF DIRECT CLIENT CARE RNS
                                         (PERCENT)                            BY EDUCATIONAL PREPARATION
  INPATIENT SERVICES             DOCT    MAST    BACC   ASSOC    DIPL    DOCT   MAST   BACC   ASSOC   DIPL    TOTAL

   LONG TERM HOSPITALS                  (ASSUMPTION 17)

 1.   PSYCHIATRIC              (  0.0) ( 15.5) ( 64.5) ( 10.0) ( 10.0)     0     22     90     14      14      140
      ALL OTHER LONG TERM
 2.     GENERAL MED-SURG UNIT  (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
 3.     CRITICAL CARE UNIT     (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
 4.     SELF CARE UNIT         (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
 5.     EXTENDED CARE UNIT     (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
 6.     REHABILITATION UNIT    (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
 7.   MR/DEVELOPMENTAL CENTERS(  0.0) ( 15.5) ( 84.5) (  0.0) (  0.0)     0      8     45      0       0       53

   SHORT TERM HOSPITALS

 8.   SMALL, UNDER 100 BEDS    (  0.0) (  1.0) ( 40.0) ( 40.0) ( 19.0)     0     18    719    719     341     1797
      LARGE, OVER 400 BEDS,TEACHING
 9.     NEWBORN UNIT           (  0.0) (  2.0) ( 60.0) ( 30.0) (  8.0)     0      2     71     35       9      117
10.     GENERAL MED-SURG UNIT  (  0.0) (  7.5) ( 60.0) ( 20.0) ( 12.5)     0    228   1825    608     380     3041
11.     CRITICAL CARE UNIT     (  0.0) ( 10.0) ( 60.0) ( 20.0) ( 10.0)     0    102    613    204     102     1021
12.     SELF CARE UNIT         (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
13.     EXTENDED CARE UNIT     (  0.0) (  1.0) ( 40.0) ( 30.0) ( 29.0)     0      0     15     11      11       37
14.     REHABILITATION UNIT    (  0.0) ( 10.0) ( 60.0) ( 15.0) ( 15.0)     0      5     31      8       8       52
15.     PSYCHIATRIC UNIT       (  0.0) ( 10.0) ( 60.0) ( 20.0) ( 10.0)     0     38    228     76      38      380
      ALL OTHER SHORT TERM
16.     NEWBORN UNIT           (  0.0) (  2.0) ( 50.0) ( 35.0) ( 13.0)     0      3     74     52      19      148
17.     GENERAL MED-SURG UNIT  (  0.0) (  7.5) ( 60.0) ( 20.0) ( 12.5)     0    301   2409    803     502     4015
18.     CRITICAL CARE UNIT     (  0.0) ( 10.0) ( 60.0) ( 20.0) ( 10.0)     0     51    306    102      51      510
19.     SELF CARE UNIT         (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
20.     EXTENDED CARE UNIT     (  0.0) (  1.0) ( 40.0) ( 30.0) ( 29.0)     0      0      1      0       0        1
21.     REHABILITATION UNIT    (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0       0        0
22.     PSYCHIATRIC UNIT       (  0.0) ( 10.0) ( 60.0) ( 20.0) ( 10.0)     0     10     61     20      10      101

   TOTAL HOSPITAL INPATIENT                                                0    788   6488   2652    1495    11413
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                                 ANALYSIS AND PLANNING
              FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                          REQUIREMENTS CALCULATION SOFTWARE
                           DIRECT CLIENT CARE RNS - EDUCATION
                                 REPORT 2  (CONTINUED)
-------------------------------------------------------------------------------------------------------

                              EDUCATIONAL VECTOR                    NO. OF DIRECT CLIENT CARE RNS
                                  (PERCENT)                           BY EDUCATIONAL PREPARATION
                          DOCT    MAST    BACC   ASSOC    DIPL     DOCT   MAST   BACC   ASSOC   DIPL    TOTAL

  OTHER HOSPITAL SERVICES            (ASSUMPTION 18)

1.  SURGICAL OPERATIONS  (  0.0) (  0.0) ( 50.0) ( 30.0) ( 20.0)     0      0    307    184    123      614
2.  EMERGENCY VISITS     (  0.0) ( 10.0) ( 50.0) ( 20.0) ( 20.0)     0     77    386    155    155      773
3.  OUTPATIENT CLINIC
      VISITS             (  0.0) ( 10.0) ( 50.0) ( 20.0) ( 20.0)     0      3     13      5      5       26

  TOTAL OTHER HOSPITAL SERVICES                                      0     80    706    344    283     1413

  TOTAL HOSPITAL-BASED DIRECT CLIENT CARE                            0    868   7194   2996   1768    12826

   NURSING HOMES                     (ASSUMPTION 19)

1.    NURSING CARE HOMES (  0.0) (  5.0) ( 50.0) ( 25.0) ( 20.0)     0     48    483    241    193      965

2.    DOMICILIARY        (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0      0        0

    TOTAL NURSING HOME                                               0     48    483    241    193      965

                                     (ASSUMPTION 20)
1. PHYSICIANS OFFICES    (  0.0) (  5.0) ( 50.0) ( 25.0) ( 20.0)     0     74    738    369    295     1476
2. INDEPENDENT/GROUP
    PRACTICE             (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0      0        0

   COMMUNITY HEALTH                  (ASSUMPTION 21)

1.    HOME HEALTH CARE   (  0.0) (  8.0) ( 65.0) ( 20.0) (  7.0)     0    118    957    294    103     1472
2.    GENERAL HOME VISITS(  0.0) (  8.0) ( 65.0) ( 20.0) (  7.0)     0    186   1512    465    163     2326
3.    HEALTH CLINIC CARE (  0.0) (  8.0) ( 65.0) ( 20.0) (  7.0)     0     25    207     64     22      318
4.    SCHOOL HEALTH      (  0.0) (  8.0) ( 65.0) ( 20.0) (  7.0)     0     64    520    160     56      800
5.    INDUSTRIAL HEALTH  (  0.0) (  8.0) ( 65.0) ( 20.0) (  7.0)     0     46    372    114     40      572
6.    OTHER              (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0      0      0      0      0        0

   TOTAL PUBLIC HEALTH                                               0    439   3568   1097    384     5488
```

NOTE: The revised projection (see Report 1, page 3 for explanation) of 1100 registered nurses was distributed in the same percentages as indicated above. Therefore, the number of Community Health RNs by educational preparation is as follows:

TOTAL - PUBLIC HEALTH

Mast - 88    Bacc - 715    Assoc - 220    Dipl - 77

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                              ANALYSIS AND PLANNING
          FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                       REQUIREMENTS CALCULATION SOFTWARE
                   EXECUTIVE NURSE ADMINISTRATORS BY SETTING
                                    REPORT 3

------------------------------------------------------------------------------------------

      YEAR - 1984
      REGION - ALABAMA
      2ND PROJECTION RUN

                                                    (ASSUMPTION 23)
                              (ASSUMPTION 22)       EXECUTIVE NURSE           NUMBER OF
                                NUMBER OF          ADMINISTRATORS/         EXECUTIVE NURSE
      SETTING                  INSTITUTIONS          INSTITUTION            ADMINISTRATORS

      LONG TERM HOSPITALS -
  1.    PSYCHIATRIC                    9                  5.0                      45
  2.  MR/DEVELOPMENTAL CENTERS         4                  2.0                       8
      SHORT TERM HOSPITALS -
  3.    SMALL (UNDER 100 BEDS)        74                  4.0                     296
  4.    LARGE, TEACHING               13                  9.9                     129
  5.    ALL OTHER                     57                  6.0                     342
  6.  HOSPITAL OUTPATIENT            146                  1.0                     146
  7.  NURSING CARE HOMES             211                  1.0                     211
  8.  DOMICILIARY                     14                  0.0                       0
  9.  COMMUNITY HEALTH                80                  2.0                     160
 10.  PHYSICIANS OFFICES            2108                  0.0                       0
 11.  INDEPENDENT/GROUP
        PRACTICE                       0                  0.0                       0
                                                                        TOTAL    1337

                                 (ASSUMPTION 24)
                               EDUCATIONAL VECTOR                 NO. OF EXECUTIVE ADMINISTRATORS
      SETTING                      (PERCENT)                        BY EDUCATIONAL PREPARATION
                           DOCT    MAST    BACC   ASSOC    DIPL    DOCT  MAST  BACC  ASSOC  DIPL  TOTAL
     LONG TERM HOSPITALS -
  1.   PSYCHIATRIC        ( 20.0) ( 80.0) (  0.0) (  0.0) (  0.0)     9    36     0     0     0     45
  2. MR/DEVELOPMENTAL CENTERS ( 50.0) ( 50.0) ( 0.0) ( 0.0) ( 0.0) 4     4     0     0     0      8
     SHORT TERM HOSPITALS -
  3.   SMALL (UNDER 100 BEDS) (  0.0) ( 25.0) ( 75.0) ( 0.0) ( 0.0) 0   74   222     0     0    296
  4.   LARGE, TEACHING    ( 28.6) ( 71.4) (  0.0) (  0.0) (  0.0)    37    92     0     0     0    129
  5.   ALL OTHER          (  1.0) ( 75.0) ( 24.0) (  0.0) (  0.0)     3   256    82     0     0    341
  6. HOSPITAL OUTPATIENT  (  0.0) ( 50.0) ( 50.0) (  0.0) (  0.0)     0    73    73     0     0    146
  7. DOMICILIARY          (  0.0) (  5.0) ( 95.0) (  0.0) (  0.0)     0    11   200     0     0    211
  8. PERSONAL CARE HOMES  (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0     0     0     0     0      0
  9. COMMUNITY HEALTH     (  5.0) ( 95.0) (  0.0) (  0.0) (  0.0)     8   152     0     0     0    160
 10. PHYSICIANS OFFICES   (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0     0     0     0     0      0
 11. INDEPENDENT/GROUP
       PRACTICE           (  0.0) (  0.0) (  0.0) (  0.0) (  0.0)     0     0     0     0     0      0
                                                         TOTAL       61   698   577     0     0   1336
```

ANALYSIS AND PLANNING
FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
REQUIREMENTS CALCULATION SOFTWARE
MID-LEVEL NURSE ADMINISTRATORS BY SETTING
REPORT 4

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YEAR - 1984
REGION - ALABAMA
2ND PROJECTION RUN

| | SETTING | TOTAL DIRECT CLIENT CARE RNS | (ASSUMPTION 25) MID-LEVEL NURSE ADMINISTRATORS/10 DIRECT CLIENT CARE RNS | NUMBER OF MID-LEVEL NURSE ADMINISTRATORS |
|---|---|---|---|---|
| | LONG TERM HOSPITALS - | | | |
| 1. | PSYCHIATRIC | 139 | 0.5 | 7 |
| 2. | MR/DEVELOPMENTAL CENTERS | 53 | 0.2 | 1 |
| | SHORT TERM HOSPITALS - | | | |
| 3. | SMALL (UNDER 100 BEDS) | 1796 | 1.7 | 305 |
| 4. | LARGE, TEACHING | 4651 | 4.0 | 1860 |
| 5. | ALL OTHER | 4775 | 3.5 | 1671 |
| 6. | HOSPITAL OUTPATIENT | 799 | 0.0 | 0 |
| 7. | NURSING CARE HOMES | 966 | 0.1 | 10 |
| 8. | DOMICILIARY | 0 | 0.0 | 0 |
| 9. | COMMUNITY HEALTH | 5489 | 1.0 | 549 |
| 10. | PHYSICIANS OFFICES | 1476 | 0.0 | 0 |
| 11. | INDEPENDENT/GROUP PRACTICE | 0 | 0.0 | 0 |
| | | | TOTAL | 4403 |

| | SETTING | (ASSUMPTION 26) EDUCATIONAL VECTOR (PERCENT) DOCT | MAST | BACC | ASSOC | DIPL | NO. OF MID-LEVEL ADMINISTRATORS BY EDUCATIONAL PREPARATION DOCT | MAST | BACC | ASSOC | DIPL | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LONG TERM HOSPITALS - | | | | | | | | | | | |
| 1. | PSYCHIATRIC | ( 0.0) | ( 50.0) | ( 50.0) | ( 0.0) | ( 0.0) | 0 | 3 | 3 | 0 | 0 | 6 |
| 2. | MR/DEVELOPMENTAL CENTERS | ( 0.0) | ( 0.0) | (100.0) | ( 0.0) | ( 0.0) | 0 | 0 | 1 | 0 | 0 | 1 |
| | SHORT TERM HOSPITALS - | | | | | | | | | | | |
| 3. | SMALL (UNDER 100 BEDS) | ( 0.0) | ( 0.0) | (100.0) | ( 0.0) | ( 0.0) | 0 | 0 | 305 | 0 | 0 | 305 |
| 4. | LARGE, TEACHING | ( 0.0) | ( 40.0) | ( 60.0) | ( 0.0) | ( 0.0) | 0 | 744 | 1116 | 0 | 0 | 1860 |
| 5. | ALL OTHER | ( 0.0) | ( 10.0) | ( 90.0) | ( 0.0) | ( 0.0) | 0 | 167 | 1504 | 0 | 0 | 1671 |
| 6. | HOSPITAL OUTPATIENT | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. | NURSING CARE HOMES | ( 0.0) | ( 0.0) | ( 0.0) | ( 50.0) | ( 50.0) | 0 | 0 | 0 | 5 | 5 | 10 |
| 8. | DOMICILIARY | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. | COMMUNITY HEALTH | ( 0.0) | ( 35.0) | ( 65.0) | ( 0.0) | ( 0.0) | 0 | 192 | 357 | 0 | 0 | 549 |
| 10. | PHYSICIANS OFFICES | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. | INDEPENDENT/GROUP PRACTICE | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | TOTAL | 0 | 1106 | 3286 | 5 | 5 | 4402 |

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                         ANALYSIS AND PLANNING
       FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                 REQUIREMENTS CALCULATION SOFTWARE
                 SCHOOLS OF NURSING -- FACULTY RNS
                              REPORT 5

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      YEAR - 1984
      REGION - ALABAMA
      2ND PROJECTION RUN

                              (ASSUMPTION 27)            (ASSUMPTION 28)
 PROGRAM                  NO. OF NURSING STUDENTS   NO. OF FACULTY/10 STUDENTS      NO. OF FACULTY

 1. PHD                              51                      2.00                          10
 2. MASTERS                         288                      2.00                          58
 3. BACCALAUREATE                  4498                      1.20                         540
 4. ASSOCIATE                      2377                      1.20                         285
 5. DIPLOMA                         504                      1.20                          60
 6. PRACTICAL NURSING              1999                      1.20                         239

                                                                          TOTAL        1192


                               (ASSUMPTION 29)                              NO. OF FACULTY
                              EDUCATIONAL VECTOR                        BY EDUCATIONAL PREPARATION
                                  (PERCENT)
 PROGRAM                 DOCT     MAST     BACC     ASSOC    DIPL       DOCT   MAST   BACC   ASSOC   DIPL   TOTAL

 1. PHD                (100.0) (  0.0) (  0.0) (  0.0) (  0.0)          10      0      0      0      0      10
 2. MASTERS            ( 75.0) ( 25.0) (  0.0) (  0.0) (  0.0)          43     14      0      0      0      57
 3. BACCALAUREATE      ( 25.0) ( 75.0) (  0.0) (  0.0) (  0.0)         135    405      0      0      0     540
 4. ASSOCIATE          ( 10.0) ( 90.0) (  0.0) (  0.0) (  0.0)          29    257      0      0      0     286
 5. DIPLOMA            ( 10.0) ( 90.0) (  0.0) (  0.0) (  0.0)           6     54      0      0      0      60
 6. PRACTICAL NURSING  (  0.0) ( 75.0) ( 25.0) (  0.0) (  0.0)           0    179     60      0      0     239

                                                         TOTAL         223    909     60      0      0    1192
                              ANALYSIS AND PLANNING
            FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                        REQUIREMENTS CALCULATION SOFTWARE
                      SCHOOLS OF NURSING -- ADMINISTRATIVE RNS
                                    REPORT 6
------------------------------------------------------------------------------------------------

     YEAR - 1984
     REGION - ALABAMA
     2ND PROJECTION RUN

                                (ASSUMPTION 30)
                             NO. OF ADMINISTRATORS              NO. OF ADMINISTRATORS
PROGRAM                         /10 FACULTY                     IN SCHOOLS OF NURSING

1. PHD                            1.00/10                                  1
2. MASTERS                        1.00                                     6
3. BACCALAUREATE                  1.00                                    54
4. ASSOCIATE                      1.00                                    29
5. DIPLOMA                        1.00                                     6
6. PRACTICAL NURSING              1.00                                    24

                                                              TOTAL      120

                              (ASSUMPTION 31)                       NO. OF ADMINISTRATORS
                            EDUCATIONAL VECTOR                    BY EDUCATIONAL PREPARATION
                                (PERCENT)
PROGRAM                 DOCT     MAST     BACC     ASSOC     DIPL      DOCT   MAST   BACC   ASSOC   DIPL   TOTAL

1. PHD                (100.0) (  0.0) (  0.0) (  0.0) (  0.0)       1      0      0      0      0       1
2. MASTERS            (100.0) (  0.0) (  0.0) (  0.0) (  0.0)       6      0      0      0      0       6
3. BACCALAUREATE      (100.0) (  0.0) (  0.0) (  0.0) (  0.0)      54      0      0      0      0      54
4. ASSOCIATE          ( 15.0) ( 85.0) (  0.0) (  0.0) (  0.0)       4     24      0      0      0      28
5. DIPLOMA            ( 10.0) ( 90.0) (  0.0) (  0.0) (  0.0)       1      5      0      0      0       6
6. PRACTICAL NURSING  (  0.0) ( 75.0) ( 25.0) (  0.0) (  0.0)       0     18      6      0      0      24

                                                   TOTAL           66     47      6      0      0     119
                              ANALYSIS AND PLANNING
             FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                       REQUIREMENTS CALCULATION SOFTWARE
                                   OTHER RNS
                                   REPORT 7
--------------------------------------------------------------------------------------------------------------------

       YEAR - 1984
       REGION - ALABAMA
       2ND PROJECTION RUN


                       *** RESEARCHER, INSTRUCTOR AND CONSULTANT RNS ***

(ASSUMPTION 32) (ASSUMPTION 32)                     (ASSUMPTION 32)                NO. OF RESEARCHERS, INSTRUCTORS, AND
 NO. OF LARGE     RNS/LARGE                        EDUCATIONAL VECTOR              CONSULTANTS BY EDUCATIONAL PREPARATION
  HOSPITALS        HOSPITAL        RNS                 (PERCENT)
                                          DOCT     MAST     BACC    ASSOC      DIPL    DOCT  MAST  BACC ASSOC  DIPL    TOTAL
     13             34.00          507  ( 33.0) ( 67.0) (  0.0) (  0.0) (  0.0)    167   340     0     0     0      507


                          *** HEALTH-RELATED ORGANIZATIONS - RNS ***

               (ASSUMPTION 33)                      (ASSUMPTION 33)                   NO. OF RNS IN THESE ORGANIZATIONS
   TOTAL        RNS/1,000,000                      EDUCATIONAL VECTOR                   BY EDUCATIONAL PREPARATION
 POPULATION      POPULATION        RNS                 (PERCENT)
                                          DOCT     MAST     BACC    ASSOC      DIPL    DOCT  MAST  BACC ASSOC  DIPL    TOTAL
  4025696          80.00           322  (  1.0) ( 32.0) ( 60.0) (  5.0) (  2.0)      3   103   193    16     6      321


                                 *** PRIVATE DUTY RNS ***

               (ASSUMPTION 34)                      (ASSUMPTION 34)                 NO. OF RNS IN PRIVATE DUTY BY
   TOTAL        RNS/100,000                        EDUCATIONAL VECTOR               EDUCATIONAL PREPARATION
 POPULATION      POPULATION        RNS                 (PERCENT)
                                          DOCT     MAST     BACC    ASSOC      DIPL    DOCT  MAST  BACC ASSOC  DIPL    TOTAL
  4025696           8.00           322  (  0.0) (  5.0) ( 50.0) ( 35.0) ( 10.0)      0    16   161   113    32      322
```

## TABLE 5

## TOTAL REQUIREMENTS PROJECTIONS FOR 1984

| Setting | *RN | LPN |
|---|---|---|
| Total Hospital Services | 12,826 | 6,833 |
| Nursing Homes | 965 | 2,414 |
| Physician Offices | 1,476 | 1,476 |
| Ind/Group Practice | 0 | 0 |
| Community Health | 1,100 | 0 |
| Executive Nurse Administrators | 1,336 | 0 |
| Mid-Level Nurse Administrators | 4,392 | 0 |
| Faculty | 1,192 | 0 |
| Administrators/Schools of Nursing | 119 | 0 |
| Researcher, Instructor, Consultant | 507 | 0 |
| Health Related Organizations | 319 | 0 |
| Private Duty RNs | 322 | 0 |
| Total | 24,544 | 10,723 |

Note: These projections are made in FTEs.

*The RNs totals were taken from the totals reflected on the educational vector. There may be slight discrepancies between these totals and the totals in the first section.

## TABLE 6

## EDUCATIONAL PREPARATION OF PROJECTED RNS REQUIRED FOR 1984

| Setting | Higher Degree | | | Assoc/Dipl | |
|---|---|---|---|---|---|
| | Doc | Mast | Bacc | Assoc | Dipl |
| Total Hospital Services | 0 | 868 | 7,194 | 2,996 | 1,768 |
| Nursing Homes | 0 | 48 | 483 | 241 | 193 |
| Physician Offices | 0 | 74 | 733 | 369 | 295 |
| Ind/Group Practice | 0 | 0 | 0 | 0 | 0 |
| Community Health | 0 | 88 | 715 | 220 | 77 |
| Executive Nurse Administrators | 61 | 698 | 577 | 0 | 0 |
| Mid-Level Nurse Administrators | 0 | 1106 | 3,286 | 5 | 5 |
| Faculty | 223 | 909 | 60 | 0 | 0 |
| Administrators/School of Nursing | 66 | 47 | 6 | 0 | 0 |
| Researcher, Instructor, Consultant | 167 | 340 | 0 | 0 | 0 |
| Health-Related Organizations | 1 | 103 | 193 | 16 | 6 |
| Private Duty RNs | 0 | 16 | 161 | 113 | 32 |
| Subtotal | 518 | 4,297 | 13,413 | 3,960 | 2,376 |
| Total | 4,815 | | 13,413 | 6,336 | |

## TABLE 7

## RANGE CALCULATION FOR REQUIREMENTS PROJECTION

| Ed. Level | Projection | Projection + 3% | Projection - 3% | Range |
|---|---|---|---|---|
| Dipl/Assoc | 6,336 | 6,526 | 6,146 | 6,146-6,526 |
| Bacc | 13,413 | 13,815 | 13,011 | 13,011-13,815 |
| Higher Degree | 4,817 | 4,961 | 4,672 | 4,672-4,961 |
| Total RNs | 24,544 | 25,280 | 23,808 | 23,808-25,280 |
| LPNs | 10,723 | 11,044 | 10,402 | 10,402-11,044 |

# APPENDIX H

## ASSUMPTIONS AND RATIONALES FOR THE REQUIREMENTS SECTION OF THE WICHE MODEL

### A Note About The Assumptions

Committee members spent considerable deliberation on the assumptions for 1984, both in terms of the actual numbers of nurses needed as well as the educational preparation of those nurses. Aware of economic realities and constraints, the Committee was also concerned with the educational preparation provided to the student and the quality of care administered to the patient. Thus, the dilemma: Should the projection identify desirable goals if there is no way the goals can be reached by 1984?

The following assumptions do represent goals which are desirable by 1984. However, these goals are not ideal but are considered adequate until such time as a sufficient number of nurses are prepared at the various educational levels. In some cases, these goals will be met by 1984; in other cases, these goals may not be reached for many years. Clearly then, these are short-term, not long-term goals and should be reassessed and reevaluated in 1985.

At this time, the nursing profession is in a state of change, and goals which are set must be flexible enough to respond to this change. It is essential that a group such as the Advisory Committee on Nursing Education be involved in a reassessment so that all areas of the nursing profession are given an opportunity to provide input.

Throughout the assumptions, decreases in the number of diploma prepared RNs were projected, even though this group represents the largest percentage of registered nurses at this time. In the past, the majority of registered nurses were prepared by diploma programs; however, the last ten years have seen a substantial decrease in the number of diploma programs along with a dramatic increase in the number of basic nursing programs located in postsecondary institutions. Today, there are only four diploma programs in Alabama, as compared to ten diploma programs in 1972. Obviously, these four programs cannot produce the same number of diploma graduates as were entering the work force in the past.

In a number of instances, the Committee was required to make decisions about the educational preparation of registered nurses without benefit of established criteria and/or background data. As a result, the Committee had to rely upon collective judgment and professional experience. It is recognized that this approach cannot be defended in a scientific manner. However, these decisions were reached only after extensive deliberations and represent the best effort of the Advisory Committee on Nursing Education.

## ASSUMPTION 1

Rationale: The following projections were accepted for 1984.

General Population

| | |
|---|---|
| Under 17 years | 1,035,379 |
| Age 17-64 | 2,405,902 |
| Over 64 years | 458,712 |
| TOTAL | 3,899,993 |

Source: Center for Business and Economic Research, University of Alabama.

Infant Statistics

| | |
|---|---|
| Live Births | 57,000 |
| Deaths - one month to one year | 250 |

Source: Department of Vital Statistics

## ASSUMPTION 2

Definitions:

Long Term Hospital: Inpatient facility where patient's stay is longer than 18 days.

Short Term Hospital: Inpatient facility where patient's stay is relatively short (eight days in non-federal hospital and 18 days in federal hospital).

MR/Developmental Center: Four long-term facilities in Alabama which cannot be classified as psychiatric hospitals: Albert P. Brewer Developmental Center, Lurleen B. Wallace Developmental Center, Partlow State School and Hospital, J.S. Tarwater Developmental Center.

General Med-Surg Unit: Section, ward, wing, or floor that provides nursing services for patients who are in an acute phase of illness and require diagnostic, medical, and/or surgical interventions and limited restorative care. Maternity, pediatric, and adult medical-surgical beds are included in this category.

Critical Care Unit: ICC and/or CCU. Also includes burn units and units caring for high risk infants.

Self-Care Unit: Designed for ambulatory patients who need minimal nursing care but who must remain hospitalized.

**Extended Care Unit**: Provides nursing services and continuous professional nursing supervision for patients who are not in an acute phase of illness but who do require convalescent, restorative or long-term skilled nursing care.

**Rehabilitation Unit**: Provides coordinated multidisciplinary, physical-restorative services.

**Psychiatric Unit**: Specific section, ward, wing, or floor designed primarily to care for psychiatric inpatients.

**Newborn Unit**: Unit caring for normal, newborn infants in nurseries.

## Rationale:

### Long-Term Hospitals

1. Psychiatric - 9.81 beds/10,000 population

In 1978, there were 9.81 beds/10,000 population in Alabama in long-term psychiatric hospitals. The Committee decided to project this same ratio for 1984 for several reasons. Many patients are now referred to ambulatory and community health settings for psychiatric and mental health care; current emphasis is on early diagnosis, treatment, and prevention; and the reduction in residents in psychiatric facilities, stemming from the 1972 court order, has now stabilized the resident population.

Source: University of Alabama in Birmingham Mental Health Task Force, 1978

### All Other Long Term

Note: No projections were made for categories 2-6 in this and future assumptions. At present there are no long-term hospitals in Alabama which have these units, and the Committee could find no documented evidence to demonstrate that a need for such units would exist in 1984.

7. MR/Developmental Centers - 4.66 beds/10,000 population

This category has been changed from psychiatric unit, as labeled by the model, to MR/developmental centers in order to accommodate four long-term hospitals which are not classified as psychiatric hospitals. These facilities are the Albert P. Brewer Developmental Center, the Lurleen B. Wallace Developmental Center, the Partlow State School and Hospital, and the J. S. Tarwater Developmental Center.

There were 4.53 beds/10,000 population in MR/developmental centers in 1978, and the Committee projected a slight increase in this ratio in 1984 to 4.66 beds/10,000 population. This increase was justified by the projected growth in population, the increased survival rate of high risk infants which may lead to an increase in developmental disorders, and the improved care of institutionalized individuals which will increase life span. However, the Committee recognized that the increase in the ratio would be minimal since the 1972 court order has also resulted in a reduction of residents in MR/developmental centers.

## Short Term Hospitals

8. Small, Under 100 Beds - 11.19 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

### Large, Over 400 Beds, Teaching

9. Newborn Unit - 1.17 beds/10,000 population

The committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

10. General Med-Surg Unit - 13.52 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

11. Critical Care Unit - 1.24 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1934. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

12. Self Care Unit - 0.0 beds/10,000 population

In 1978, there were .04 self care beds/10,000 population in large, over 400 beds, teaching hospitals. For 1984, the Committee projected no beds in this category. Recent studies have indicated that it is more cost effective to provide these self care services on an outpatient or home care basis, and third party payors have begun to reimburse for outpatient diagnostic procedures, thus creating an incentive to reduce self care beds.

Source: Bureau of Health Development

13. Extended Care Unit - .76 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1934. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health

Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

14. Rehabilitation Unit - .30 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

15. Psychiatric Unit - 2.22 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

### All Other Short Term

16. Newborn Unit - 2.14 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

17. General Med-Surg Unit - 23.42 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

18. Critical Care Unit - 1.37 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

19. Self Care Unit - 0.0 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. Since there were no beds in this category in 1978, the projection for 1984 was zero beds.

Sources: Bureau of Health Development
National Guidelines for Health Planning

20. Extended Care Unit - .12 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

21. Rehabilitation Unit - 0.0 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. Since there were no beds in this category in 1978, the projection for 1984 was zero beds.

Sources: Bureau of Health Development
National Guidelines for Health Planning

22. Psychiatric Unit - .80 beds/10,000 population

The Committee decided to project the 1978 bed/population ratio for 1984. It was felt that any population growth would be offset by trends in the health care delivery system. Although the Committee realized that the current ratio may represent "over-bedding" according to the National Guidelines for Health Planning, members also felt that the present status of health planning made it impossible to judge the potential impact of the guidelines. Also considered were patterns of reimbursement, appropriateness review, and other such policies.

Sources: Bureau of Health Development
National Guidelines for Health Planning

## ASSUMPTION 3

### Long Term Hospitals

1. Psychiatric - 75.1 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

7. MR/Developmental Centers - 95.0 percent occupancy rate

The occupancy rate in MR/developmental centers was 97.7 percent in 1978, and the Committee projected a slight decrease to 95 percent for 1984. It was the Committee's feeling that undue stress is placed on any facility operating with more than 95 percent occupancy, and that a slight decrease in the occupancy rate should not only increase the availability of beds but also improve the quality of care.

Source: Bureau of Health Development

## Short Term Hospitals

8. Small, Under 100 Beds - 63.3 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

## Large, Over 400 Beds, Teaching

9. Newborn Unit - 52.2 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

10. General Med-Surg Unit - 75.6 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

11. Critical Care Unit - 73.1 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

12. Self Care Unit - 0.0 percent occupancy rate

The occupancy rate in this category could not be calculated because of lack of data; however, since the Committee had already projected no beds in this category for 1984, no occupancy rate was required.

Source: Bureau of Health Development

13. Extended Care Unit - 92.4 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

14. Rehabilitation Unit - 68.4 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

15. Psychiatric Unit - 67.5 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1934. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

All Other Short Term

16. Newborn Unit - 35.6 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

17. General Med-Surg Unit - 57.6 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

18. Critical Care Unit - 33.0 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1934. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

19. Self Care Unit - 0.0 percent occupancy rate

There were no beds in this category in 1978, and the Committee did not feel any beds would be added by 1984. Therefore, no occupancy rate was projected.

Source: Bureau of Health Development

20. Extended Care Unit - 22.0 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

21. Rehabilitation Unit - 0.0 percent occupancy rate

There were no beds in this category in 1978, and the Committee did not feel any beds would be added by 1984. Therefore, no occupancy rate was projected.

Source: Bureau of Health Development

22. Psychiatric Unit - 49.8 percent occupancy rate

The Committee projected the 1978 occupancy rate for 1984. While this rate may be below established guidelines, it will accommodate the increased needs expected with the projected population growth.

Source: Bureau of Health Development

## ASSUMPTIONS 4 & 5

Rationale:

Long-Term Hospitals

1. Psychiatric - 4.7 RNs/100 patients
   18 LPNs/10 RNs

The Committee arrived at a ratio of 4.70 RNs/100 patients in long-term psychiatric facilities after examing both the 1972 court order and the recent staffing report developed by the University of Alabama in Birmingham Mental Health Task Force. Although these two reports referred specifically to Bryce Hospital and Searcy Hospital, Committee members felt that staffing ratios for other long-term psychiatric facilities in the State would be very similar. The Committee decided to use the ratios for Bryce Hospital in the Task Force Report feeling that these ratios would reflect the current situation better than the court order. Additionally, these ratios do not violate the court order.

Calculations of the staffing ratios are given below:

RN: Task Force Report (p.20): 66 RNs/1,400 patients
converts to: 4.7 RNs/100 patients
10 RNs/212.76 patients
LPN: Task Force Report (p.20): 117 LPNs/1,400 patients
converts to: 17.76 LPNs/212.76 patients (rounded to 18 LPNs)
18 LPNs/10 RNs

Note: It was recognized that other types of supportive personnel would also be needed in this setting. However, projections were made only for RNs and LPNs.

7. MR/Developmental Center - 3.0 RNs/100 patients
10 LPNs/10 RNs

Again, the Committee looked to the 1972 court order and the Task Force Report for guidance. Although these reports referred specifically to Partlow State School and Hospital, Committee members felt that staffing ratios for the other three MR/developmental centers would be very similar. The Committee decided to use the ratios for Partlow State School and Hospital in the Task Force Report feeling that these ratios would reflect the current situation better than the court order. Additionally, these ratios do not violate the court order.

Calculations of the staffing ratios are given below:

RN: Task Force Report (p. 25): 34 RNs/1,160 patients
converts to: 2.93 RNs/100 patients
(rounded to 3 RNs)
10 RNs/333 patients

LPN: Task Force Report (p. 25): 34 LPNs/1,160 patients
9.76 LPNs/333 patients
(rounded to 10 LPNs)
10 LPNs/10 RNs

Note: It was recognized that other types of supportive personnel would also be needed in this setting. However, projections were made only for RNs and LPNs.

Assumptions made in the remaining categories (see below) were based on RNs/100 patients, not RNs/100 beds. Different hours of nursing care for each category were projected for a 24-hour period and the ratios were then calculated. The Committee recognized that these hours of nursing care might be higher than established guidelines, such as those set by the American Hospital Association; however, the Committee felt that many variables affect the established guidelines and that there is a definite need to move toward a higher quality of care. Any projected increases in professional staff presuppose an increase in quality of care and will assist in the implementation of primary nursing care, now a growing trend in the State.

## Short Term Hospitals

8. Small, Under 100 Beds

ADC = 100
Nursing care/pt./24 hr. = 6 hrs.
Total hrs. care/24 hrs. = 100 x 6 = 600 hrs.
600 hrs. ÷ 8 hr. shift = 75 shifts/day
75 shifts/day x 7 days/wk = 525 shifts/wk
525 shifts/wk ÷ 5 shifts/wk/person = 105 people

By collective judgment, the Committee recommended that the total 105 people should be 60 percent RNs and 40 percent LPNs.

RN: 105 (60%) = 63 RNs/100 pts.
LPN: 105 (40%) ÷ 6.3 = 6.66 LPNs/10 RNs (rounded to 6.7)

## Large, Over 400 Beds, Teaching

### 9. Newborn Unit

ADC = 100
Nursing care/pt./24 hr. = 5 hr.
Total hrs. care/24 hr. = 100 x 5 = 500 hrs.
500 hrs. ÷ 8 hr. shift = 62.5 shifts/day
62.5 shifts/day x 7 days/wk = 437.5 shifts/wk
437.5 shifts/wk ÷ 5 shifts/wk/person = 87.5 people

By collective judgment, the Committee recommended that the total 87.5 people should be 55 percent RNs and 45 percent LPNs.

RN: 87.5 (55%) = 48.12 RNS/100 pts.
LPN: 87.5 (45%) ÷ 4.812 = 8.18 LPNs/10 RNs (rounded to 8.2)

### 10. General Med-Surg Unit

ADC = 100
Nursing care/pt./24 hr. = 6.5 hr.
Total hrs. care/24 hr. = 100 x 6.5 = 650 hrs.
650 hrs. ÷ 8 hr. shift = 81.25 shifts/day
81.25 shifts/day x 7 days/wk = 568.75 shifts/wk
568.75 shifts/wk ÷ 5 shifts/wk/person = 113.75 people

By collective judgment, the Committee recommended that the total 113.75 people should be 65 percent RNs and 35 percent LPNs.

RN: 113.75 (65%) = 73.93 RNs/100 pts.
LPN: 113.75 (35%) ÷ 7.393 = 5.38 LPNs/10 RNs (rounded to 5.4)

### 11. Critical Care Unit

ADC = 100
Nursing care/pt./24 hr. = 20 hr.
Total hrs. care/24 hr. = 100 x 20 = 2,000 hrs.
2,000 hrs. ÷ 8 hr. shift = 250 shifts/day
250 shifts/day x 7 days/wk = 1,750 shifts/wk
1,750 shifts/wk ÷ 5 shifts/wk/person = 350 people

By collective judgment, the Committee recommended that the total 350 people should be 80 percent RNs and 20 percent LPNs.

RN: 350 (80%) = 280 RNs/100 pts.
LPN: 350 (20%) ÷ 28 = 2.5 LPNs/10 RNs

### 12. Self Care Unit

No calculations made as no beds were projected.

### 13. Extended Care Unit

ADC = 100
Nursing care/pt./24 hr. = 3 hr.
Total hrs. care/24 hr. = 100 x 3 = 300 hrs.
300 hrs. ÷ 8 hr. shift = 37.5 shifts/day
37.5 shifts/day x 7 days/wk = 262.5 shifts/wk
262.5 shifts/wk ÷ 5 shifts/wk/person = 52.5 people

By collective judgment, the Committee recommended that the total 52.5 people should be 25 percent RNs and 75 percent LPNs.

RN: 52.5 (25%) = 13.12 RNs/100 pts.
LPN: 52.5 (75%) ÷ 1.312 = 30.02 LPNs/10 RNs (rounded to 30.0)

### 14. Rehabilitation Unit

ADC = 100
Nursing care/pt./24 hr. = 6 hr.
Total hrs. care/24 hr. = 100 x 6 = 600 hrs.
600 hrs. ÷ 8 hr. shift = 75 shifts/day
75 shifts/day x 7 days/wk = 525 shifts/wk
525 shifts/wk ÷ 5 shifts/wk/person = 105 people

By collective judgment, the Committee recommended that the total 105 people should be 60 percent RNs and 40 percent LPNs.

RN: 105 (60%) = 63 RNs/100 pts.
LPN: 105 (40%) ÷ 6.3 = 6.66 LPNs/10 RNs (rounded to 6.7)

### 15. Psychiatric Unit

ADC = 100
Nursing care/pt./24 hr. = 4.5 hr.
Total hrs. care/24 hr. = 100 x 4.5 = 450 hrs.
450 hrs. ÷ 8 hr. shift = 56.25 shifts/day
56.25 shifts/day x 7 days/wk = 393.75 shifts/wk
393.75 shifts/wk ÷ 5 shifts/wk/person = 78.75 people

By collective judgment, the Committee recommended that the total 78.75 people should be 80 percent RNs and 20 percent LPNs.

RN: 78.75 (80%) = 63 RNs/100 pts.
LPN: 78.75 (20%) ÷ 6.3 = 2.5 LPNs/10 RNs

Note: It was recognized that other types of supportive personnel would also be needed in this setting. However, projections were made only for RNs and LPNs.

## All Other Short Term

16. Newborn Unit

    Same calculation as No. 9 above.

17. General Med-Surg Unit

    Same calculation as No. 10 above.

18. Critical Care Unit

    Same calculation as No. 11 above.

19. Self Care Unit

    No calculations made as no beds were projected.

20. Extended Care Unit

    Same calculation as No. 13 above.

21. Rehabilitation Unit

    No calculations made as no beds were projected.

22. Psychiatric Unit

    Same calculation as No. 15 above.

## ASSUMPTION 6

### Definitions:

Surgical Operations: Includes general surgery, open heart surgery, cardiac catheterizations, delivery, and cystoscope examinations.

Emergency Visits: Refers to visits to an organized facility of a hospital for the provision of emergency outpatient services for conditions requiring immediate care.

Outpatient Clinic Visits: Refers to ambulatory visits to a clinic or dispensary connected with it for diagnosis and treatment; includes units that provide renal dialysis, rehabilitation, psychiatric, abortion, and other organized outpatient services.

| | Services/10,000 population |
|---|---|
| Surgical Operations | 1,015.29 |
| Emergency Visits | 3,838.57 |
| Outpatient Clinic Visits | 436.59 |

The Committee projected the same services/10,000 population ratio for 1984 as existed in 1978 for "surgical operations" and "emergency visits". Under "outpatient clinic visits", the Committee projected an increase in services/10,000 population from 430.59 to 436.59 . This increase was forseen because of the trend of third party payors to reimburse for outpatient diagnostic procedures and also because of the cost effective nature of outpatient services.

Source: Bureau of Health Development

## ASSUMPTIONS 7 & 8

| | |
|---|---|
| Surgical Operations: | 1.50 RNs/1,000 Services<br>0 LPNs/10 RNs |
| Emergency Visits: | .50 RNs/1,000 Services<br>8 LPNs/ 10 RNs |
| Outpatient Clinic Visits: | .15 RNs/1,000 Services<br>10 LPNs/10 RNs |

Rationale: For 1984, the Committee projected these staffing patterns, taking into account present staffing patterns and functions performed by RNs and LPNs. These staffing patterns are based on services provided, not nursing care hours.

Note: It was recognized that other types of supportive personnel would also be needed in this setting. However, projections were made only for RNs and LPNs.

## ASSUMPTION 9

Definitions:

Nursing Care Homes: Refers to facilities in which 50 percent or more of the residents receive nursing care.

Domiciliaries: Refers to facilities which do not provide 24 hour supervision and/or nursing care, but do give some supervision exceeding mere room and board. Note: The Committee chose to accept this term and definition rather than the term "Personal Care Homes with Nursing" and the corresponding definition which was provided by the model.

Nursing Care Homes - 450.00 beds/10,000 population 64+
Domiciliaries - 16.35 beds/10,000 population 64+

Rationale: In 1978, there were 481.78 nursing care home beds/10,000 population over 64 in Alabama, and for 1984, the Committee projected 450.00 beds/10,000 population over 64. An increase in beds was not projected because of certificate of need requirements, P.S.R.O., and Medicaid regulations. The Committee was aware that all skilled care facilities will be licensed as combination homes in 1980; however, it was recognized that this patient classification is primarily for reimbursement purposes and does not necessarily represent need or quality of care required.

There were 12.31 domiciliary beds/10,000 population over 64 in 1978. The Committee projected an increase of these beds to 16.35/10,000 population over 64. This increase was justified by the requirement of alternative placement for nursing care home patients.

Source: Bureau of Licensure and Certification

## ASSUMPTION 10

Nursing Care Homes - 95.0 percent occupancy rate
Domiciliaries - 95.0 percent occupancy rate

Rationale: The occupancy rate in nursing care homes was 93.1 percent in 1978, and the Committee projected a slight increase to 95 percent in 1984, due to the rising number of citizens over age 64. The occupancy rate in domiciliaries was also projected to be 95 percent in 1934 in view of the trend toward alternative care patterns.

Source: Bureau of Licensure and Certification

## ASSUMPTIONS 11 & 12

Nursing Care Homes - 5 RNs/100 pts
25 LPNs/10 RNs

Domiciliaries - 0 RNs/100 pts
0 LPNs/100 pts

Rationale: Since few nursing care homes have resident physicians, the Committee felt that the RN must function as the primary agent of health care, not only assessing patient needs and supervising patient care, but also implementing rehabilitation and maintenance procedures. Therefore, a ratio of 5 RNs/100 patients was projected for 1984.

Recognizing that LPNs are required for the administration of medications, the Committee projected a staffing ratio of 25 LPNs/10 RNs in nursing care homes in 1984, as elderly patients generally take large quantities of medications for a multiplicity of physical and mental problems.

For domiciliaries, the Committee projected no RNs or LPNs. The nature of this type facility lends itself to general care for general needs. Professional staffing in domiciliaries is neither necessary nor desirable.

Note: It was recognized that other types of supportive personnel would also be needed in this setting. However, projections were made only for RNs and LPNs.

## ASSUMPTION 13

Definition:

Physicians' Offices: Refers to a private practice, partnership, or corporation set up by an individual physician or group of physicians in which a nurse functions either in a supportive or collegial role.

| | |
|---|---|
| No. of MDs | 4,150 |
| RNs/10 MDs | 3.50 |
| LPNs/10 RNs | 10 |

Rationale: In Alabama, there were 4,254 licensed physicians in 1978. According to the Department of Public Health, approximately 88.5 percent of all licensed physicians provide patient care in an office setting; thus, there were approximately 3,765 office-based physicians in the State in 1978. The Committee considered the number of physicians being graduated each year and projected a 12 percent increase in the number of office-based physicians in Alabama in 1984. Therefore, it was estimated that there would be 4,216 office-based physicians in Alabama in 1984. (Note: This estimate is for the number of office-based physicians, not number of physician offices.)

Generally, the Committee felt that 3.5 RNs and 3.5 LPNs would be required for every ten physicians. The RN would be responsible for assessment and patient/family teaching and the LPN would handle technical assignments. In addition, the demand for nurse practitioners is expected to increase in Alabama in the future, and that increase is reflected in the RN projection in this category.

Source: Bureau of Licensure and Certification

## ASSUMPTION 14

Definition:

Independent/Group Practice: Visits to a private nursing practice, partnership, or corporation set up by an individual nurse or group of nurses in which a nurse functions with her own caseload, authority, responsibility, and accountability.

Rationale: At present, there is no independent group practice for nurses in Alabama and the Committee did not project such practice for 1984.

## ASSUMPTIONS 15 & 16

The six basic functions of public health were identified as home health care, general home visits, clinic visits, school health, industrial health, and other. Specific staffing requirements for each of these areas were assumed, based upon the documented needs of certain population cohorts. These staffing criteria were then translated into RN/population ratios for 1984.

Using these ratios, the model computed a need for 5,421 registered nurses in community health in 1984. Although the Committee felt this number identified the true needs in public health, it also recognized that there were only 550 registered nurses employed in public health in 1978. Thus, the Committee arbitrarily set a 100 percent increase, of 1100 registered nurses, as a significant goal for 1984, even though this goal would not approach the actual needs in the public health setting.

For information purposes, the calculations for the registered nurse/population ratios follow. These calculations should be viewed as long-term goals.

### Home Health Care

Hospital discharge follow-up and an alternative to nursing home care.

Total Population -- 2.57 RNs/10,000 total population
0 LPNs/10 RNs*

| | |
|---|---|
| 1978 hospital discharges | 683,973 |
| Percent requiring follow-up | x 10% |
| Total number of clients | 68,397.3 |
| Visits/client/yr | x 20 |
| | 1,367,946 |
| Visits/RN/day | ÷ 5.5 |
| | 248,717.45 |
| RN working days/yr | ÷ 240 |
| Total FTE RN | 1,036.32 |
| Total population, 1984 | 4,025,696 |
| RN/10,000 total population | 2.57 |

In assumptions two and three, the 1978 bed/population ratios and occupancy rates were projected for 1984. As such, the Committee felt that the number of hospital discharges in 1984 would approximate the number of discharges in 1978.

At present, three percent of all hospital discharges have follow-up visits; for 1984, the Committee set ten percent as a goal for hospital discharges to be followed-up. The Committee was aware that the Alabama Advisory Council for Comprehensive Health Planning recommended in 1973 that 33.3 percent of all hospital discharges have follow-up visits. However, the Committee felt that this percentage represented a totally unrealistic goal for 1984.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Bureau of Public Health Nursing
Center for Business and Economic Research, University of Alabama
Comprehensive Health Plan, Chapter 47, June 1973

Population Over 64 Years -- 9.69 RNs/10,000 population over 64 yrs.
0.0 LPNs/10 RNs*

| | |
|---|---|
| Persons over age 64, 1984 | 451,742 |
| Percent requiring home service | x 6.5% |
| Total number of clients | 29,363.23 |
| Visits/client/yr | x 20 |
| | 587,264.6 |
| Visits/RN/day | ÷ 5.5 |
| | 106,775.38 |
| RN working days/yr | ÷ 240 |
| Total FTE RN | 444.89 |
| RN/10,000 pop. over 64 yrs. | 9.69 |

Although the Bureau of Public Health Nursing recognizes that 6.5 percent of all people over age 64 should have home service, that percentage has not yet been reached. Therefore, the Committee set 6.5 percent as a goal for 1984. Again, the Committee was aware that the Alabama Advisory Council for Comprehensive Health Planning recommended 7.5 percent as a long-term goal, but the Committee felt that 6.5 percent would be a more realistic and feasible goal for 1984. However, it is recommended that future studies of nursing manpower reflect a higher percentage due to the increased emphasis being placed on home health care.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Bureau of Public Health Nursing
Center for Business and Economic Research, University of Alabama
Comprehensive Health Plan, Chapter 47, June 1973

## General Home Visits

Persons in identifiable high risk groups.

Live Births -- 2.72 RNs/10,000 live births
0.0 LPNs/10 RNs*

| | |
|---|---|
| 1984 number of live births | 57,000 |
| Percent without prenatal care | x 4.5% |
| Total number of clients | 2,565 |
| Visits/client/yr | x 8 |
| | 20,520 |
| Visits/RN/day | ÷ 5.5 |
| | 3,730.9 |
| RN working days/yr | ÷ 240 |
| Total FTE RN | 15.54 |
| RN/10,000 live births | 2.72 |

According to the Department of Maternal and Child Health Nursing, 4.5 percent of all births in 1977 were without benefit of prenatal care, defined as three or more prenatal visits. In the absence of a projection for the future, the Committee decided to project this percentage for 1984, even though it is hoped that the percentage is reduced by that time.

The Committee cautioned against any conclusion that the remaining 95.5 percent of all births in 1977 had benefit of adequate prenatal care. There is still much work to be done in Alabama to educate the citizens of the necessity of pre-pregnancy counseling and prenatal care.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Bureau of Public Health Nursing
Center for Business and Economic Research, University of Alabama
Department of Vital Statistics

Infant Deaths -- 7.20 RNs/10,000 Infant Deaths
0.0 LPNs/10 RNs*

| | |
|---|---|
| 1984 number of infant deaths (1 mo. to 1 yr.) | 250 |
| Visits/client/yr | x 1 |
| | 250 |
| Visits/RN/day | ÷ 5.5 |
| | 45.45 |
| RN working days/yr | ÷ 240 |
| Total FTE RN | .18 |
| RN/10,000 infant deaths | 7.20 |

In 1977, there were 366 infant deaths (1 month to 1 year) in Alabama; the Committee accepted a projection by the Department of Vital Statistics that there would be 250 infant deaths in 1984. Committee members also felt that one visit should be made to each family in which an infant death occurs.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Bureau of Public Health Nursing
Department of Vital Statistics

Population Under 17 Yrs. -- 1.36 RNs/10,000 Population Under 17
0.0 LPNs/10 RNs*

| | |
|---|---|
| 1984 pop. under 17 | 1,042,220 |
| Percent with morbidity | x 1.5% |
| Total number of clients | 15,663.30 |
| Visits/client/yr | x 12 |
| | 187,599.6 |
| Visits/RN/day | ÷ 5.5 |
| | 34,109.01 |
| RN working days/yr | ÷ 240 |
| Total FTE RN | 142.12 |
| RN/10,000 pop. under 17 | 1.36 |

At this time, approximately 1.5 percent of the population under 17 has some type of morbidity, and the Committee could find no documented evidence that this figure would change by 1984.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Bureau of Public Health Nursing
Center for Business and Economic Research, University of Alabama

Population 17 Yrs. and Older -- 7.27 RNs/10,000 pop. 17 Yrs. & Older
0.0 LPNs/10 RNs*

| | |
|---|---|
| 1984 pop., 17 yrs. and older | 2,983,476 |
| Percent with chronic illness | x 8% |
| Total number of clients | 238,678.08 |
| Visits/client/yr | x 12 |
| | 2,864,136.96 |
| Visits/RN/day | ÷ 5.5 |
| | 520,752.17 |
| RN working days/yr | ÷ 240 |
| Total FTE RN | 2,169.8 |
| RNs/10,000 pop., 17 yrs. and older | 7.27 |

Nationally, approximately five percent of the population 17 years and older suffer from some type of chronic illness, according to the National Panel of Experts. The Committee felt that this percentage was probably greater in Alabama, due to a high incidence of TB and Black Lung disease, and also to the large population of rural poor. Therefore, the Committee projected that eight percent of the total population over 17 will suffer from some form of chronic illness in 1984.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: National Panel of Experts
Bureau of Public Health Nursing
Center for Business and Economic Research, University of Alabama

## Health Clinic Care

Total Population -- .79 RNs/10,000 population
0.0 LPNs/10 RNs*

| | |
|---|---|
| Number of sites, 1984 | 80 |
| RNs/site | x 4 |
| Total FTE RNs | 320 |
| Total population, 1984 | 4,025,696 |
| RNs/10,000 population | .79 |

In Alabama, there were 80 health clinic care sites in 1978, and no increases were projected for 1984. The Bureau of Public Health Nursing recommended that two RNs staff each site; however, the Committee felt that this staff should increase to four RNs/site to adequately handle public health responsibilities in health maintenance, prevention, and education.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Bureau of Public Health Nursing
Center for Business and Economic Research, University of Alabama

## School Health

Population under 17 yrs. -- 7.67 RNs/10,000 pop. under 17 yrs.
0.0 LPNs/10 RNs*

| | |
|---|---|
| 1978 number of students, 1-12 | 799,878 |
| FTE RN/1,000 students | 1.0 |
| Total FTE RN | 800 |
| 1984 population under 17 | 1,042,220 |
| RN/10,000 population under 17 | 7.67 |

In 1978, there were 799,878 students enrolled in grades 1-12 in Alabama. Since the State Department of Education does not have a projected enrollment for 1984, the Committee decided to project the 1978 enrollment for 1984, feeling that any decline in enrollment in grades 1-12 would be offset by the addition of kindergarten students to the total enrollment.

According to the Bureau of Public Health Nursing, there was 1 RN/5,000 students in 1978. However, the National Education Association has recommended 1 RN/1,000 students because studies have shown that measurable changes in health outcomes are achieved by an early development of sound health practices; thus, the Committee accepted 1 RN/1,000 students as a goal for 1984, with the understanding that these nurses should perform school health duties only.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Annual Reports, 1977-78, State Department of Education
Bureau of Public Health Nursing
Center for Business and Economic Research, University of Alabama

## Industrial Health

Population 17-64 yrs. -- 2.26 RN/10,000 pop. 17-64 yrs.
0.0 LPNs/10 RNs*

| | |
|---|---|
| 1984 employees in firms with 500+ employees | 286,663 |
| FTE RN/500 employees | 1 |
| Total FTE RN | 573 |
| 1984 population 17-64 yrs. | 2,531,734 |
| RN/10,000 population 17-64 yrs. | 2.26 |

Although there was only 1 RN/1,000 employees in firms with 500+ employees in Alabama in 1978, the Committee decided to accept the ratio of 1 RN/500 employees for 1984 as recommended by the National Panel of Experts. The Committee recognized that this goal will require much progress in the area of Industrial Health.

*The LPN ratio was the result of collective judgment and professional expertise of Committee members.

Sources: Bureau of Public Health Nursing
Department of Industrial Relations

### Other

No calculations made. This category was assumed to have minimum impact on nursing needs.

## ASSUMPTION 17

Note: The following educational vectors represent educational preparation of the actual "care givers", professional nurses who directly administer care to the patient. Supervisors, head nurses, coordinators, etc. are calculated in later assumptions.

### Long Term Hospitals

1. Psychiatric - 15.5% MSN
65.5% BSN
10.0% ADN
10.0% DIP

7. MR/Developmental Center - 15.5% MSN
84.5% BSN

These are staffing patterns which were recommended by the University of Alabama in Birmingham Mental Health Task Force, 1978.

### Short Term Hospitals

8. Small, Under 100 Beds - 1.0% MSN
40.0% BSN
40.0% ADN
19.0% DIP

Much of the care in small, rural hospitals is fairly routine in nature as most complicated cases are referred to a regional medical center. Therefore, the Committee felt that much of the care in these hospitals could be performed by diploma and ADN nurses. However, the Committee recognized that efforts should be made to increase the number of BSN and MSN prepared nurses in small, rural hospitals in the future.

### Large, Over 400 Beds, Teaching

9. Newborn Unit - 2.0% MSN
60.0% BSN
30.0% ADN
8.0% DIP

In a large teaching hospital, many of the newborn cases represent high risk potential. As such, a heavy emphasis was placed on BSN nurses because they are capable of making newborn assessments and evaluations.

10. General Med-Surg Unit -

| | |
|---|---|
| 7.5% | MSN |
| 60.0% | BSN |
| 20.0% | ADN |
| 12.5% | DIP |

Since much nursing care on this type unit involves a high level of assessment skills, the Committee projected a strong emphasis on preparation. However, the Committee felt it essential to include a good percentage of MSN nurses, as the definition of the model includes pediatrics, obstetrics, and adult med-surg beds in this category. This definition was viewed as a definite weakness of the model.

11. Critical Care Unit -

| | |
|---|---|
| 10.0% | MSN |
| 60.0% | BSN |
| 20.0% | ADN |
| 10.0% | DIP |

A large teaching hospital has more BSN and MSN prepared nurses on duty at all times to make assessments and judgments about a patient's condition. Therefore, this unit can utilize the ADN and diploma nurse to perform routine tasks in the critical care setting.

12. Self Care Unit

No beds projected to be staffed.

13. Extended Care Unit -

| | |
|---|---|
| 1.0% | MSN |
| 40.0% | BSN |
| 30.0% | ADN |
| 29.0% | DIP |

Originally, the Committee had projected a higher percentage of diploma RNs in this category. However, the Committee recognized that while 49 percent of the current RN work force is diploma prepared, this percentage will decrease in the future because of the small number of diploma students being graduated.

14. Rehabilitation Unit -

| | |
|---|---|
| 10.0% | MSN |
| 60.0% | BSN |
| 15.0% | ADN |
| 15.0% | DIP |

Recognizing that much patient care in the rehabilitation unit involves a high level of assessment skills, the Committee placed heavy emphasis on BSN preparation.

15. Psychiatric Unit -

| | |
|---|---|
| 10.0% | MSN |
| 60.0% | BSN |
| 20.0% | ADN |
| 10.0% | DIP |

Since baccalaureate programs provide their students with a good foundation in psychiatric nursing, the Committee felt that BSN preparation should be emphasized in this category. However, it was recognized that ADN and diploma programs also provide education in psychiatric/mental health nursing to their students.

All Other Short Term

16. Newborn Unit -
2.0% MSN
50.0% BSN
35.0% ADN
13.0% DIP

In short term hospitals, a heavy emphasis should be placed on nurses who are capable of making newborn assessments and evaluations. As such, a heavy emphasis was placed on BSN preparation.

17. General Med-Surg Unit -
7.5% MSN
60.0% BSN
20.0% ADN
12.5% DIP

(Rationale is the same as for #10 above.)

18. Critical Care Unit -
10.0% MSN
60.0% BSN
20.0% ADN
10.0% DIP

Nurses in these units must be able to make critical assessments and judgments; as such, a heavy emphasis was placed on MSN and BSN preparation.

19. Self Care Unit

No beds projected in this category.

20. Extended Care Unit -
1.0% MSN
40.0% BSN
30.0% ADN
29.0% DIP

(Rationale is the same as for #13 above.)

21. Rehabilitation Unit

No beds projected in this category.

| | |
|---|---|
| 22. Psychiatric Unit - | 10.0% MSN |
| | 60.0% BSN |
| | 20.0% ADN |
| | 10.0% DIP |

(Rationale is the same as for #15 above.)

## ASSUMPTION 18

| | |
|---|---|
| Surgical Operations - | 50.0% BSN |
| | 30.0% ADN |
| | 20.0% DIP |
| Emergency Visits - | 10.0% MSN |
| | 50.0% BSN |
| | 20.0% ADN |
| | 20.0% DIP |
| Outpatient Clinics - | 10.0% MSN |
| | 50.0% BSN |
| | 20.0% ADN |
| | 20.0% DIP |

Rationale: With the current trend toward preventive health care, the Committee considered the need for more patient/family teaching and discharge planning in the emergency room and outpatient clinics as the basis for the MSN preparation in this category. These nurses should be prepared for critical care, capable of making critical judgments and able to function in crisis intervention.

The mix of BSN, ADN, and diploma nurses was based on the preparation of those practicing in Alabama in 1978, as well as those who can be expected to graduate by 1984.

## ASSUMPTION 19

| | |
|---|---|
| Nursing Care Homes - | 5.0% MSN |
| | 50.0% BSN |
| | 25.0% ADN |
| | 20.0% DIP |

Domiciliaries - No projection made.

Rationale: Again, the mix of RNs in nursing care homes was based on the preparation of those practicing in Alabama today, as well as those who can be expected to graduate by 1984. Note that since no nursing professionals were projected for the domiciliaries, no educational vector was assumed.

## ASSUMPTION 20

Physicians' Offices - 5.0% MSN (Nurse Practitioners)
50.0% BSN
25.0% ADN
20.0% DIP

Independent/Group Practice - No projection made.

Rationale: The demand for additional nurse practitioners is projected to increase in Alabama in the future. Therefore, five percent of the RNs in this category were projected at the MSN level for 1984.

Independent/group practice was not projected here since it was omitted in Assumption 14.

## ASSUMPTION 21

Home Health Care - 8.0% MSN
65.0% BSN
20.0% ADN
7.0% DIP

General Home Visits - 8.0% MSN
65.0% BSN
20.0% ADN
7.0% DIP

Health Clinic Care - 8.0% MSN
65.0% BSN
20.0% ADN
7.0% DIP

School Health - 8.0% MSN
65.0% BSN
20.0% ADN
7.0% DIP

Industrial Health - 8.0% MSN
65.0% BSN
20.0% ADN
7.0% DIP

Other - No projections made.

Rationale: Since public health nursing involves much teaching, independent assessment, decision making, and professional judgment, a heavy emphasis was placed on BSN prepared nurses. However, the Committee recognized that much of the current work force is prepared at the diploma level and that these skills must continue to be utilized until such time as sufficient numbers of nurses prepared at higher educational levels are available for these positions.

As "Other" was not projected under Assumption 15, no educational vector was projected here.

Note: These same ratios were used to calculate the educational preparation of the short-term goal of 1100 registered nurses.

## ASSUMPTIONS 22, 23, & 24

Definition:

Executive Nurse Administrator (ENA): Denotes a top level position in which the individual is the nursing executive or administrator of an independent association, agency, unit, or corporation within the nursing system. Includes nursing directors, associate directors, and assistant directors. This individual is not a new graduate and should have adequate work experience.

| | # Inst. | ENA/Inst. | Ed. Prep. |
|---|---|---|---|
| Long Term Hospitals | | | |
| 1. Psychiatric | 9 | 5.0 | 20.0% PHD<br>80.0% MSN |
| 2. MR/Developmental Center | 4 | 2.0 | 50.0% PHD<br>50.0% MSN |
| Short Term Hospitals | | | |
| 3. Small (Under 100 Beds) | 74 | 4.0 | 25.0% MSN<br>75.0% BSN |
| 4. Large, Teaching | 13 | 9.9 | 28.6% PHD<br>71.4% MSN |
| 5. All Other | 57 | 6.0 | 1.0% PHD<br>75.0% MSN<br>24.0% BSN |
| 6. Hospital Outpatient | 146 | 1.0 | 50.0% MSN<br>50.0% BSN |
| 7. Nursing Care Homes | 211 | 1.0 | 5.0% MSN<br>95.0% BSN |
| 8. Domiciliaries | 14 | 0.0 | -------- |
| 9. Community Health | 80 | 2.0 | 5.0% PHD<br>95.0% MSN |
| 10. Physicians' Offices | 2075 | 0.0 | -------- |
| 11. Independent/Group Practice | 0 | 0.0 | -------- |

Rationale: The Committee looked at the number of institutions in each category for 1973, and decided to accept those figures for 1984 with the exception of physicians' offices. A previous estimate by the Committee had calculated the number of office-based physicians in Alabama in 1984 as being 4,216. However, the Committee felt that some adjustment would have to be made for physicians who practice together. Recognizing that some practices may include six physicians and other practices may only include one physician, the Committee concluded that half of the 4,216 office-based physicians in 1984 would be set up in individual offices; therefore, the projection was 2,108.

With respect to ENAs/Institution, the Committee determined that no ENA would be required in domiciliaries, physicians' offices, and independent/group practice. Other calculations were based on the collective judgment and professional experiences of the Committee members.

Educational percentages in this category are based on collective judgment and professional experiences of Committee members. For long-term planning, however, the educational preparation of these individuals should be continually upgraded.

Sources: Bureau of Health Development
Bureau of Licensure and Certification
Department of Public Health

## ASSUMPTIONS 25 & 26

Definition:

Mid-level Nurse Administrator (MLNA): According to the definition used in the model, this is a position in which the nurse administrator has authority and responsibility for a single unit that is higher than the lowest level for which management is required or for multiple units at the lowest management level. The Committee expanded this category to include supervisors, coordinators, and head nurses. This individual is not a new graduate and should have adequate work experience.

| | MLNA/100CCRNS | Ed. Prep. |
|---|---|---|
| Long Term Hospitals | | |
| 1. Psychiatric | .5 | 50.0% MSN<br>50.0% BSN |
| 2. MR/Developmental Centers | .2 | 100.0% BSN |
| Short Term Hospitals | | |
| 3. Small (Under 100 Beds) | 1.7 | 100.0% BSN |
| 4. Large, Teaching | 4.0 | 40.0% MSN<br>60.0% BSN |

| | | |
|---|---|---|
| 5. All Other | 3.5 | 10.0% MSN<br>90.0% BSN |
| 6. Hospital Outpatient | 0.0 | --------- |
| 7. Nursing Care Homes | .1 | 50.0% ADN<br>50.0% DIP |
| 8. Domiciliaries | 0.0 | --------- |
| 9. Community Health | 1.0 | 35.0% MSN<br>65.0% BSN |
| 10. Physicians' Offices | 0.0 | --------- |
| 11. Independent/Group Practice | 0.0 | --------- |

Rationale: In this assumption, estimates of the desired educational preparation of the mid-level nurse administrators in various settings were made. The percentages were based on the collective judgment and professional experience of Committee members. The Committee assumed that these individuals will be experienced persons, not new graduates.

## ASSUMPTIONS 27, 28, & 29

| Program Level | Total Enrollment 1984 | Faculty Per 10 Students | Faculty Ed. Prep. |
|---|---|---|---|
| PHD | 51 | 2.00 | 100.0% PHD |
| MSN | 288 | 2.00 | 75.0% PHD<br>25.0% MSN |
| BSN | 4498 | 1.20 | 25.0% PHD<br>75.0% MSN |
| ADN | 2377 | 1.20 | 10.0% PHD<br>90.0% MSN |
| Diploma | 504 | 1.20 | 10.0% PHD<br>90.0% MSN |
| Practical | 1989 | 1.20 | 75.0% MSN<br>25.0% BSN |

Rationale: The number of nursing students, by various levels, was obtained from a survey conducted by the Commission staff. With respect to faculty, the Committee considered an instructor's capability in the clinical setting and concluded that no teacher can adequately supervise more than eight students; however, the Committee realized that with budgetary constraints, this goal would not be reached by 1984.

A strong feeling among the Committee was that a faculty member should be prepared at the same level or one level above the student. The Committee also felt that baccalaureate graduates are not prepared to teach in schools of nursing except in practical nursing programs.

Although the total number of master's and doctoral prepared nurses in the state is fairly low, there has been a dramatic increase in graduate prepared nurses over the last five years, and the Committee projected a similar increase by 1984. The Committee also recommended that all faculty be prepared with degrees in nursing, rather than related fields.

Note: The total enrollment figures for 1984 were based on the 1984 enrollment projected by the programs, with a 5 percent increase projected for 1984.

## ASSUMPTIONS 30 & 31

Definition:

Administrator: Includes those positions that primarily entail executive, administrative, or managerial responsibility for a nursing school, division, or department.

| Program Level | Adm/10 Faculty | Adm. Ed Prep. |
|---|---|---|
| PHD | 1.00 | 100.0% PHD |
| MSN | 1.00 | 100.0% PHD |
| BSN | 1.00 | 100.0% PHD |
| ADN | 1.00 | 15.0% PHD<br>85.0% MSN |
| Diploma | 1.00 | 10.0% PHD<br>90.0% MSN |
| Practical | 1.00 | 75.0% MSN<br>25.0% BSN |

Rationale: The Administrator/10 Faculty ratios were based on the collective judgment and professional experience of Committee members. The Committee felt that the ratios in 1984 would not differ significantly from the ratios in 1978. With respect to the educational preparation of administrators, the Committee accepted the judgment of the National Panel of Experts.

## ASSUMPTION 32

Definition:

Consultant Position: Includes those positions in which the primary responsibility is an advisory one. Nursing-related areas in which consultation is requested may include client care, administration, instruction, and research.

Instructor Position: Includes those positions in which the responsibility is the teaching of nursing, either in a formal educational nursing or multidisciplinary program or an inservice program in a health-care institution.

Researcher Position: Includes those positions in which the primary role responsibility is to direct and/or engage in nursing research.

| | |
|---|---|
| No. of Large Hospitals | 13 |
| No. of RNs/Large Hospital | 39 |
| Researcher, Instructor, Consultant | 33.0% PHD<br>67.0% MSN |

Rationale: In Alabama, there are 13 hospitals which qualify for the model's definition of large hospital. According to the Alabama Hospital Association, in 1978 there were 8.23 consultant, instructor, researcher RNs/large hospital. The Committee felt that the future will see a major increase in this category of nurses, due not only to the needs of updating nursing staff and improving the quality of care, but also meeting the requirements for hospital licensure and accreditation. As such, the Committee projected 39 consultant, instructor, researcher RNs/large hospital in 1984. No attempt was made to separate these categories as it was recognized that one nurse may function in more than one role.

## ASSUMPTION 33

Definition:

Health-related Organizations: Refers to such organizations as professional associations, regional planning groups, state boards of nursing, health agencies, and the like that are interested in health concerns and issues.

| | |
|---|---|
| RNS/1,000,000 Population - | 80.00 |
| Educational Preparation - | 1.0% PHD<br>32.0% MSN<br>60.0% BSN<br>5.0% ADN<br>2.0% DIP |

Rationale: In 1978, the number of RNs in health-related organizations/1,000,000 population was 40.09. Calculations included the following organizations: the Alabama Board of Nursing, the Alabama State Nurses' Association, the Health Systems Agencies, the American Red Cross, the Alabama Hospital Association, and college health services employing RNs. The Committee felt that the manpower in this category will double in the future. Thus, the 1984 projection was 80 RNs/1,000,000 population.

Source: Alabama Board of Nursing

## ASSUMPTION 34

RNs/100,000 Population - 8.0

Educational Preparation -
5.0% MSN
50.0% BSN
35.0% ADN
10.0% DIP

Rationale: The number of private duty nurses, both RNs and LPNs, has been declining as hospital staffs have assumed increasing responsibility for care of the acutely ill. In Alabama in 1978, there were 5.58 private duty RNs/100,000 population. However, the Committee used this category to calculate needs for nurses employed by the various registeries, such as the Nurses' Professional Registry, the Central Alabama Home Health Service, the Visiting Nurses' Association, etc. As such, the 1984 ratio was projected to be 8 private duty RNs/100,000 population.

Source: Alabama Board of Nursing

# APPENDIX I

## CURRENT STATEMENTS OF COMPETENCIES AND ABILITIES NLN TASK FORCE ON COMPETENCIES OF GRADUATES OF NURSING PROGRAMS[61]

### Glossary of Terminology

To remove ambiguity and provide a common frame of reference, the Task Force developed the following glossary of terminology.

Accountability: Quality of being answerable and liable for nursing judgments and actions.

1. Legal standards of accountability are defined as minimum standards in terms of safety to the consumer and are delineated in the Nurse Practice Act of the given state.
2. Professional standards of accountability extend beyond the minimum standards of safety to the consumer and are delineated in the Professional Code of Ethics.*

Competency: The minimal expectations for the new graduate.

Goal: The end toward which nursing care is directed.

Need: A condition or deficiency requiring intervention.

Nursing Data Base: Information relative to the psysiological, psychological, sociological, cultural, and spiritual needs of individuals.

Nursing Process: Is defined in terms of four components--

1. Assessment - Collection of subjective and objective data relative to the needs of the patient and/or groups; to analyze, synthesize, and validate data in order to formulate a nursing diagnosis.
2. Planning - Involves setting objectives based upon nursing diagnosis and formulating a workable plan to achieve each objective.
3. Implementation - Operationalization of nursing care plan.

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*The Advisory Committee believed that in addition to the statement in the Glossary of Terminology, it should be noted that accountability is also delineated within the American Nurses' Association Standards of Nursing Practice.

[61] National League for Nursing, Working Paper of the NLN Task Force on Competencies of Graduates of Nursing Programs, New York, 1979, pp. 1-2. Copyrighted by NLN--Reprinted by permission.

4. Evaluation - Measure achievement of established goals and revise plan of nursing care as needed.

Settings, Characteristics of: The characteristics of settings is defined in terms of two categories--

1. Structured Setting
    a. Definite lines of communication and patter of organization.
    b. Adaptation of care to needs of individual.
    c. Collaboration and supervision are readily available.
    d. Role and functions are relatively constant.

2. Unstructured Setting
    a. More opportunity to practice independently.
    b. Frequent adaptation of care according to environment.
    c. Collaboration and supervision are less available.
    d. Role and function of nurse and members of health team vary from setting to setting.
    e. More variables to deal with in the setting.
    f. Consumers have more control over their health care and environment.

Settings, Types of: The types of settings are defined in terms of three categories--

1. Acute - Needs are urgent with sudden onset and of short duration.
2. Critical - Life threatening crisis.
3. Chronic - A situation of long duration and frequent recurrence.

# CURRENT STATEMENTS OF COMPETENCIES AND ABILITIES[62]

| PRACTICAL[1] | ASSOCIATE DEGREE[2] | DIPLOMA[3] | BACCALAUREATE[4] |
|---|---|---|---|
| NURSING PROCESS<br>Assessment | | | |
| -- Contributes to the identification of basic physical, emotional, and cultural needs of the consumer.<br>-- Identifies basic communication techniques in a structured care setting.<br>-- Interviews health consumers to obtain specified information.<br>-- Identifies overt learning needs of the health consumer.<br>-- Makes significant observations of the health consumer and communicates these to the health team.<br>-- Identifies own strengths and weaknesses and seeks assistance for improvement of performance.<br>-- Identifies appropriate resource persons in some other agencies within the health care delivery system. | -- Collects and contributes to a data base (physiological, psychosocial, cultural, and spirtual needs) from available resources (e.g., client, family, medical records, and other health team members).<br>-- Identifies and documents changes in health status which interfere with the client's ability to meet basic needs (e.g., oxygen, nutrition, elimination, activity, safety, rest and sleep, and psychosocial well-being).<br>-- Establishes a nursing diagnosis based on client needs. | -- Establishes a data base through a nursing history including a psychosocial assessment in an acute-care setting.<br>-- Utilizes knowledge of the etiology, pathophysiology, usual course and prognosis for the prevalent illnesses and health problems.<br>-- Establishes priorities when providing nursing care for one or more patients.<br>-- Recognizes the significance of nonverbal communication. | -- Uses nursing practice as a means of gathering data for retaining and extending nursing science.<br>-- Synthesizes theoretical and empirical knowledge from the physical and behavioral sciences and humanities with nursing theory and practice.<br>-- Assesses the health status and health potential of individuals, families, and communities.<br>-- Evaluates research for the applicability of its findings to nursing actions.<br>-- Participates in identifying societal and community health care needs. |

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[62] National League for Nursing, Working Paper of the NLN Task Force on Competencies of Graduates of Nursing Programs, New York, 1979, pp. 11-14. Copyrighted by NLN--Reprinted by Permission.

| PRACTICAL[1] | ASSOCIATE DEGREE[2] | DIPLOMA[3] | BACCALAUREATE[4] |
|---|---|---|---|
| Planning | | | |
| -- Contributes to the development of basic nursing care plans in an institutional setting.<br>-- Contributes to the development of health plans for consumers and/or families. | -- Identifies needs and establishes priorities for care with recognition of client's level of development and needs, and with consideration of client's relationship within a family, group, and community.<br>-- Participates with clients, families, significant others, and members of the nursing team to establish long- and short-range client goals.<br>-- Develops individualized nursing care plans based on the nursing diagnosis and plans intervention that follows established nursing protocols.<br>-- Identifies criteria for evaluation of individualized nursing care plans. | -- Formulates a written plan of nursing care based on the assessment of patient needs.<br>-- Includes in the nursing care plan the effects of the family or significant others, life experience, and social cultural background.<br>-- Involves the patient, family, and significant others in the development of the nursing plan of care.<br>-- Incorporates the learning needs of patient and family into an individualized plan of care.<br>-- Applies principles of organization and management in utilizing the knowledge and skills of other nursing personnel. | -- Utilizes nursing theory as a basis for making decisions on nursing practice.<br>-- Plans nursing care with individuals, families, and community.<br>-- Participates in identifying needed change to improve delivery of care within specific health care systems.<br>-- Participates in fashioning new nursing roles to meet the societal and community health care needs. |
| Implementation | | | |
| -- Safely performs basic therapeutic and preventative nursing procedures, incorporating fundamental biological and psychological principles in giving individualized care.<br>-- Applies basic communication techniques in a structured care setting.<br>-- Demonstrates incidental health teaching during routine care.<br>-- Assumes shared responsibility | -- Carries out individualized plans of care according to priority of needs and established nursing protocols.<br>-- Participates in the prescribed medical regime by preparing, assisting, and providing follow-up care to clients undergoing diagnostic and/or therapeutic procedures.<br>-- Uses nursing knowledge, skills, and established protocols to assure an environment conducive | -- Meets the nursing needs of individuals and families.<br>-- Performs technical nursing procedures.<br>-- Utilizes concepts, scientific facts, and principles when providing nursing care.<br>-- Initiates appropriate intervention when environmental and safety hazards exist.<br>-- Initiates preventive, habili- | -- Implements nursing care with individuals, families, and communities.<br>-- Collaborates with colleagues and citizens on the interdisciplinary health team to promote the health and welfare of all people.<br>-- Participates in effecting needed change to improve delivery of health care within specific health care systems. |

| PRACTICAL[1] | ASSOCIATE DEGREE[2] | DIPLOMA[3] | BACCALAUREATE[4] |
|---|---|---|---|
| for the health care delivery system in structured situations. | to optimum restoration and maintenance of the client's normal abilities to meet basic needs.<br>- Maintains and promotes respiratory function (e.g., oxygen therapy, positioning, etc.)<br>- Maintains and promotes nutritional status (e.g., dietary regimes, supplemental therapy, intravenous infusions, etc.).<br>- Maintains and promotes elimination (e.g., bowel and bladder regimes, forcing fluids, enemas, etc.).<br>- Maintains and promotes a balance of activity, rest, and sleep (e.g., planned activities of daily living, environmental adjustment, exercises, sensory stimuli, assistive devices, etc.).<br>- Maintains an environment which supports physiological functioning, comfort, and relief of pain.<br>- Maintains and promotes all aspects of hygiene.<br>- Maintains and promotes physical safety (e.g., implementation of medical and surgical aseptic techniques, etc.).<br>- Maintains and promotes psychological safety through consideration of each individual's worth and dignity and | tative, and rehabilitative nursing measures according to the needs demonstrated by patients and families.<br>-- Performs independent nursing measures and/or seeks assistance from other members of the health team in response to the changing needs of patients.<br>-- Collaborates with physicians and members of other disciplines to provide health care.<br>-- Documents nursing interventions and patient responses.<br>-- Utilizes effective verbal and written communication.<br>-- Communicates pertinent information related to the patient through established channels.<br>-- Assists the physician in implementing the medical plan of care.<br>-- Applies knowledge of individual and group behavior in establishing interpersonal relationships.<br>-- Teaches individuals and groups to achieve and maintain an optimum level of wellness.<br>-- Utilizes the services of community agencies for continuity of patient care.<br>-- Protects the rights of patients and families. |  |

| PRACTICAL[1] | ASSOCIATE DEGREE[2] | DIPLOMA[3] | BACCALAUREATE[4] |
|---|---|---|---|
| | applies nursing measures which assist in reducing common developmental and situational stress.<br>- Measures basic physiological functioning and reports significant findings (e.g., vital signs, fluid intake and output).<br>- Administers prescribed medications safely.<br>-- Intervenes in situations where:<br>- Basic life support systems are threatened (e.g., cardiopulmonary resuscitation, obstructive airway maneuver).<br>- Untoward physiological or psychological reactions are probable.<br>- Changes in normal behavior patterns have occurred.<br>-- Participates in established institutional emergency plans. | | |

## Evaluation

| | | | |
|---|---|---|---|
| -- Seeks guidance as needed in evaluating the care given and making necessary adjustments. | -- Uses established criteria for evaluation of individualized nursing care.<br>-- Participates with clients, families, significant others, and members of the nursing team in the evaluation of established long- and short-range client goals. | -- Evaluates the effectiveness of nursing care and takes appropriate action.<br>-- Initiates and cooperates in efforts to improve nursing practice. | -- Improves service to the client by continually evaluating the effectiveness of nursing intervention and revising accordingly.<br>-- Accepts individual responsibility and accountability for nursing intervention and outcome. |

| PRACTICAL[1] | ASSOCIATE DEGREE[2] | DIPLOMA[3] | BACCALAUREATE[4] |
|---|---|---|---|
|  | -- Identifies alternate methods of meeting client's needs, modifies plans of care as necessary, and documents changes. |  |  |

## MEMBER OF NURSING PROFESSION

|  |  |  |  |
|---|---|---|---|
| -- Recognizes own role in the health care delivery system.<br>-- Shows respect for the dignity of individuals.<br>-- Seeks out and takes advantage of learning situations and opportunities for own continuing education. | -- Is accountable for his or her nursing practice.<br>-- Practices within the profession's ethnical and legal framework.<br>-- Consults with a more experienced registered nurse when client's problems are not within the scope of practice.<br>-- Assumes responsibility for self-development and uses resources for continued learning.<br>-- Participates within a structured role in research (e.g., data collection).<br>-- Recognizes policies and nursing protocols that may impede client care and works within the organizational framework to initiate change.<br>-- Works within the policies of the employer or employing institution. | -- Accepts responsibility and accountability for professional practice.<br>-- Recognizes the legal limits of nursing practice.<br>-- Demonstrates ethical behavior in the performance of nursing.<br>-- Pursues independent study and continuing education.<br>-- Respects the rights of others to have their own value systems.<br>-- Practices nursing in a non-discriminatory and non-judgmental manner.<br>-- Demonstrates flexibility in functioning in a changing society.<br>-- Adjusts with minimal difficulty to the role of employee. | -- Accountable for own nursing practice.<br>-- Accepts responsibility for the provision of nursing care through others.<br>-- Accepts the advocacy role in relation to clients.<br>-- Develops methods of working collaboratively with other health professionals. |

<table>
<tr><th>PRACTICAL[1]</th><th>ASSOCIATE DEGREE[2]</th><th>DIPLOMA[3]</th><th>BACCALAUREATE[4]</th></tr>
<tr><td colspan="4">ADDITIONAL COMPETENCIES IDENTIFIED FOR ASSOCIATE DEGREE NURSING GRADUATES<br>Role as A Communicator</td></tr>
<tr><td></td><td>-- Assesses verbal and nonverbal communication of clients, families, and significant others based upon knowledge and techniques of interpersonal communication.<br>-- Uses lines of authority and communication within the work setting.<br>-- Uses communication skills as a method of data collection, nursing intervention, and evaluation of care.<br>-- Communicates and records assessments, nursing care plans, interventions, and evaluations accurately and promptly.<br>-- Establishes and maintains effective communication with clients, families, significant others, and health team members.<br>-- Communicates client's needs through the appropriate use of referrals.<br>-- Evaluates effectiveness of one's own communication with clients, colleagues, and others.</td><td></td><td></td></tr>
</table>

| PRACTICAL[1] | ASSOCIATE DEGREE[2] | DIPLOMA[3] | BACCALAUREATE[4] |
|---|---|---|---|
| **Role as A Client Teacher** | | | |
| | -- Assesses situations in which clients need information or support to maintain health.<br>-- Develops short-range teaching plans based upon long- and short-range goals for individual clients.<br>-- Implements teaching plans that are specific to the client's level of development and knowledge.<br>-- Supports and reinforces the teaching plans of other health professionals.<br>-- Evaluates the effectiveness of client's learning. | | |
| **Role as A Manager of Client Care** | | | |
| | -- Assesses and sets nursing care priorities.<br>-- With guidance, provides client care utilizing resources and other nursing personnel commensurate with their educational preparation and experience.<br>-- Seeks guidance to assist other nursing personnel to develop skills in giving nursing care. | | |

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[1] Council of Practical Nursing Programs, "Competencies of Graduates of Educational Programs in Practical Nursing" (Draft Statement) (New York, National League for Nursing, 1979)

[2] Council of Associate Degree Programs, "Competencies of the Associate Degree Nurse on Entry into Practice" (New York, National League for Nursing, 1978)

[3] Council of Diploma Programs, "Role and Competencies of Graduates of Diploma Programs in Nursing" (New York, National League for Nursing, 1978)

[4] Council of Baccalaureate and Higher Degree Programs, "Characteristics of Baccalaureate Education in Nursing" (New York, National League for Nursing, 1979)

# APPENDIX J

## COMPUTER RUN - RESOURCES CALCULATIONS

```
                              ANALYSIS AND PLANNING
               FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                           RESOURCES CALCULATION SOFTWARE
                             GRADUATIONS - PRACTICAL
                                    REPORT  1
----------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1984
----------------------------------------------------------------------------------------
                   GRADUATION      ADMISSIONS                      COMPLETION
                      YEAR            YEAR       ADMISSIONS   X    PERCENTAGE    =    GRADUATIONS
                   ----------      ----------    ----------        ----------        -----------
                       72             ****          ****              ****                 819

                       73             ****          ****              ****                 862

                       74             ****          ****              ****                 896

                       75             ****          ****              ****                 971

                       76             ****          ****              ****                1062

                       77             ****          ****              ****                 992

                       78             ****          ****              ****                1108

                       79             ****          ****              ****                1120

                       80                80         1785          (  63.30 )              1130

                       81                81         1812          (  63.30 )              1147

                       82                82         1817          (  63.30 )              1150

                       83                83         1838          (  63.30 )              1163

NOTES:
    ( )    NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
   ****    INDICATES THAT THE TOTAL
           NUMBER OF GRADUATIONS WAS INPUT.
           GRADUATIONS CAN ALSO BE COMPUTED AS
           THE NUMBER OF ADMISSIONS MULTIPLIED
           BY THE COMPLETION PERCENTAGE.
```

## COMPUTER RUN - RESOURCES CALCULATIONS

```
                          ANALYSIS AND PLANNING
      FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                     RESOURCES CALCULATION SOFTWARE
                        GRADUATIONS - PRACTICAL
                               REPORT 1
--------------------------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1984
--------------------------------------------------------------------------------------------------------
                        GRADUATION        ADMISSIONS                        COMPLETION
                           YEAR              YEAR       ADMISSIONS   X      PERCENTAGE     =     GRADUATIONS
                        ----------        ----------    ----------          ----------           -----------
                             72              ****          ****                ****                    619

                             73              ****          ****                ****                    862

                             74              ****          ****                ****                    896

                             75              ****          ****                ****                    971

                             76              ****          ****                ****                   1062

                             77              ****          ****                ****                    992

                             78              ****          ****                ****                   1108

                             79              ****          ****                ****                   1120

                             80                  80        1785             ( 63.30 )                 1130

                             81                  81        1812             ( 63.30 )                 1147

                             82                  82        1817             ( 63.30 )                 1150

                             83                  83        1838             ( 63.30 )                 1163

NOTES:
    ( )   NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
    ****  INDICATES THAT THE TOTAL
          NUMBER OF GRADUATIONS WAS INPUT.
          GRADUATIONS CAN ALSO BE COMPUTED AS
          THE NUMBER OF ADMISSIONS MULTIPLIED
          BY THE COMPLETION PERCENTAGE.
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                          ANALYSIS AND PLANNING
       FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                    RESOURCES CALCULATION SOFTWARE
                       GRADUATIONS - DIPLOMA
                             REPORT  2
--------------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1984
--------------------------------------------------------------------------------------------
                     GRADUATION       ADMISSIONS                     COMPLETION
                        YEAR             YEAR       ADMISSIONS  X    PERCENTAGE    =   GRADUATIONS
                     ----------       ----------    ----------       ----------        -----------
                         72              ****          ****             ****                323

                         73              ****          ****             ****                365

                         74              ****          ****             ****                439

                         75              ****          ****             ****                279

                         76              ****          ****             ****                237

                         77              ****          ****             ****                156

                         78              ****          ****             ****                161

                         79              ****          ****             ****                112

                         80                 78          167          (  71.30 )             119

                         81                 79          180          (  71.30 )             128

                         82                 80          185          (  71.30 )             132

                         83                 81          190          (  71.30 )             135

NOTES:
    ( )   NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
   ****   INDICATES THAT THE TOTAL
          NUMBER OF GRADUATIONS WAS INPUT.
          GRADUATIONS CAN ALSO BE COMPUTED AS
          THE NUMBER OF ADMISSIONS MULTIPLIED
          BY THE COMPLETION PERCENTAGE.
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                              ANALYSIS AND PLANNING
          FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                         RESOURCES CALCULATION SOFTWARE
                            GRADUATIONS - ASSOCIATE
                                  REPORT  3
--------------------------------------------------------------------------------------------

 YEARS  1972 -- 1979
 REGION -- ALABAMA
 2ND RN AND LPN
     PROJ FOR 1984
--------------------------------------------------------------------------------------------
                          GRADUATION    ADMISSIONS              COMPLETION
                             YEAR          YEAR    ADMISSIONS X  PERCENTAGE   =  GRADUATIONS
                          ----------    ---------- ----------   ----------       -----------
                              72          ****        ****         ****               238

                              73          ****        ****         ****               299

                              74          ****        ****         ****               368

                              75          ****        ****         ****               626

                              76          ****        ****         ****               673

                              77          ****        ****         ****               774

                              78          ****        ****         ****               842

                              79          ****        ****         ****               845

                              80              79      1477      (  56.00 )            827

                              81              80      1496      (  56.00 )            838

                              82              81      1505      (  56.00 )            843

                              83              82      1510      (  56.00 )            846

NOTES:
     ( )  NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
    ****  INDICATES THAT THE TOTAL
          NUMBER OF GRADUATIONS WAS INPUT.
          GRADUATIONS CAN ALSO BE COMPUTED AS
          THE NUMBER OF ADMISSIONS MULTIPLIED
          BY THE COMPLETION PERCENTAGE.
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                         ANALYSIS AND PLANNING
        FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                    RESOURCES CALCULATION SOFTWARE
            GRADUATIONS - BACC - 2 YR PROFESSIONAL COMPONENT
                               REPORT 4
--------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1984
--------------------------------------------------------------------------------
                    GRADUATION    ADMISSIONS                  COMPLETION
                       YEAR          YEAR      ADMISSIONS  X  PERCENTAGE   =   GRADUATIONS
                    ----------    ----------   ----------     ----------       -----------
                        72           ****         ****           ****                   0

                        73           ****         ****           ****                   0

                        74           ****         ****           ****                  36

                        75           ****         ****           ****                  56

                        76           ****         ****           ****                  78

                        77           ****         ****           ****                 102

                        78           ****         ****           ****                  94

                        79           ****         ****           ****                  96

                        80             79          203        ( 76.70 )               156

                        81             80          306        ( 76.70 )               235

                        82             81          506        ( 76.70 )               388

                        83             82          555        ( 76.70 )               426

NOTES:
    ( )   NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
   ****   INDICATES THAT THE TOTAL
          NUMBER OF GRADUATIONS WAS INPUT.
          GRADUATIONS CAN ALSO BE COMPUTED AS
          THE NUMBER OF ADMISSIONS MULTIPLIED
          BY THE COMPLETION PERCENTAGE.
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                                    ANALYSIS AND PLANNING
                  FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                               RESOURCES CALCULATION SOFTWARE
                        GRADUATIONS - BACC - 3 YR PROFESSIONAL COMPONENT
                                          REPORT  5
------------------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1984
------------------------------------------------------------------------------------------------
                   GRADUATION      ADMISSIONS                     COMPLETION
                      YEAR            YEAR      ADMISSIONS   X    PERCENTAGE    =    GRADUATIONS
                   ----------      ----------   ----------        ----------         -----------
                         72          ****          ****              ****                      0

                         73          ****          ****              ****                      0

                         74          ****          ****              ****                     24

                         75          ****          ****              ****                      8

                         76          ****          ****              ****                     42

                         77          ****          ****              ****                     74

                         78          ****          ****              ****                    143

                         79          ****          ****              ****                    208

                         80                78       307           (  48.80 )                 150

                         81                79       483           (  48.80 )                 236

                         82                80       659           (  48.80 )                 322

                         83                81       739           (  48.80 )                 361

NOTES:
     ( )    NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
    ****    INDICATES THAT THE TOTAL
            NUMBER OF GRADUATIONS WAS INPUT.
            GRADUATIONS CAN ALSO BE COMPUTED AS
            THE NUMBER OF ADMISSIONS MULTIPLIED
            BY THE COMPLETION PERCENTAGE.
```

ANALYSIS AND PLANNING
FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
RESOURCES CALCULATION SOFTWARE

## GRADUATIONS - BACC - 4 YR PROFESSIONAL COMPONENT

REPORT 6

YEARS 1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
PROJ FOR 1984

| GRADUATION YEAR | ADMISSIONS YEAR | ADMISSIONS | X | COMPLETION PERCENTAGE | = | GRADUATIONS |
|---|---|---|---|---|---|---|
| 72 | **** | **** | | **** | | 134 |
| 73 | **** | **** | | **** | | 156 |
| 74 | **** | **** | | **** | | 166 |
| 75 | **** | **** | | **** | | 310 |
| 76 | **** | **** | | **** | | 399 |
| 77 | **** | **** | | **** | | 379 |
| 78 | **** | **** | | **** | | 333 |
| 79 | **** | **** | | **** | | 333 |
| 80 | 77 | 578 | | ( 57.80 ) | | 334 |
| 81 | 78 | 493 | | ( 57.80 ) | | 285 |
| 82 | 79 | 215 | | ( 57.80 ) | | 124 |
| 83 | 80 | 245 | | ( 57.80 ) | | 142 |

NOTES:
( ) NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
**** INDICATES THAT THE TOTAL
NUMBER OF GRADUATIONS WAS INPUT.
GRADUATIONS CAN ALSO BE COMPUTED AS
THE NUMBER OF ADMISSIONS MULTIPLIED
BY THE COMPLETION PERCENTAGE.

ANALYSIS AND PLANNING
FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
RESOURCES CALCULATION SOFTWARE
GRADUATIONS - POST-RN BACCALAUREATE
REPORT 7

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YEARS 1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
PROJ FOR 1984

---

| GRADUATION YEAR | ADMISSIONS YEAR | ADMISSIONS | X | COMPLETION PERCENTAGE | = | GRADUATIONS |
|---|---|---|---|---|---|---|
| 72 | **** | **** | | **** | | 0 |
| 73 | **** | **** | | **** | | 0 |
| 74 | **** | **** | | **** | | 2 |
| 75 | **** | **** | | **** | | 7 |
| 76 | **** | **** | | **** | | 29 |
| 77 | **** | **** | | **** | | 28 |
| 78 | **** | **** | | **** | | 47 |
| 79 | **** | **** | | **** | | 39 |
| 80 | **** | **** | | **** | | 39 |
| 81 | **** | **** | | **** | | 49 |
| 82 | **** | **** | | **** | | 54 |
| 83 | **** | **** | | **** | | 59 |

NOTES:
( ) NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
**** INDICATES THAT THE TOTAL NUMBER OF GRADUATIONS WAS INPUT. GRADUATIONS CAN ALSO BE COMPUTED AS THE NUMBER OF ADMISSIONS MULTIPLIED BY THE COMPLETION PERCENTAGE.

```
                              ANALYSIS AND PLANNING
          FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                         RESOURCES CALCULATION SOFTWARE
                       GRADUATIONS - POST-RN HIGHER DEGREE
                                    REPORT 6
--------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
 2ND RN AND LPN
     PROJ FOR 1984
--------------------------------------------------------------------------------------
                   GRADUATION     ADMISSIONS                    COMPLETION
                      YEAR           YEAR      ADMISSIONS  X    PERCENTAGE   =   GRADUATIONS
                   ----------     ----------   ----------       ----------       -----------
                         72          ****         ****             ****                  37

                         73          ****         ****             ****                  46

                         74          ****         ****             ****                  36

                         75          ****         ****             ****                  57

                         76          ****         ****             ****                  58

                         77          ****         ****             ****                  67

                         78          ****         ****             ****                  80

                         79          ****         ****             ****                 111

                         80          ****         ****             ****                 130

                         81          ****         ****             ****                 147

                         82          ****         ****             ****                 165

                         83          ****         ****             ****                 178

NOTES:
     ( )    NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
    ****    INDICATES THAT THE TOTAL
            NUMBER OF GRADUATIONS WAS INPUT.
            GRADUATIONS CAN ALSO BE COMPUTED AS
            THE NUMBER OF ADMISSIONS MULTIPLIED
            BY THE COMPLETION PERCENTAGE.
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                              ANALYSIS AND PLANNING
          FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                        RESOURCES CALCULATION SOFTWARE
                        ANNUAL HISTORIC NET ATTRITION
                                  REPORT  9
--------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1964
                                          REGISTERED NURSES
                          -------------------------------------------------    LICENSED
                          DIPLOMA AND                              HIGHER      PRACTICAL
                          ASSOCIATE       BACCALAUREATE            DEGREE      NURSES
--------------------------------------------------------------------------------------
1972 INITIAL SUPPLY               8304           1032               188          9295
1972 GRADUATIONS
     BASIC                         561            134                 0           819
     POST-RN BACC. (86)*             0              0                 0             0
     POST-RN HIGHER DEG. (81)**      0            -29                37             0
                                ------         ------            ------        ------
1973 EXPECTED SUPPLY              8865           1137               225         10114
--------------------------------------------------------------------------------------
1973 INITIAL SUPPLY               8865           1137               225         10114
1973 GRADUATIONS
     BASIC                         664            158                 0           862
     POST-RN BACC. (86)*             0              0                 0             0
     POST-RN HIGHER DEG. (81)**      0            -37                46             0
                                ------         ------            ------        ------
1974 EXPECTED SUPPLY              9529           1256               271         10976
--------------------------------------------------------------------------------------
1974 INITIAL SUPPLY               9529           1258               271         10976
1974 GRADUATIONS
     BASIC                         807            226                 0           896
     POST-RN BACC. (86)*            -1              2                 0             0
     POST-RN HIGHER DEG. (81)**      0            -29                36             0
                                ------         ------            ------        ------
1975 EXPECTED SUPPLY             10335           1457               307         11872
--------------------------------------------------------------------------------------
1975 INITIAL SUPPLY              10335           1457               307         11872
1975 GRADUATIONS
     BASIC                         905            376                 0           971
     POST-RN BACC. (86)*            -6              7                 0             0
     POST-RN HIGHER DEG. (81)**      0            -46                57             0
                                ------         ------            ------        ------
1976 EXPECTED SUPPLY             11234           1794               364         12843
--------------------------------------------------------------------------------------
1976 INITIAL SUPPLY              11234           1794               364         12843
1976 GRADUATIONS
     BASIC                         910            519                 0          1062
     POST-RN BACC. (86)*           -24             29                 0             0
     POST-RN HIGHER DEG. (81)**      0            -46                58             0
                                ------         ------            ------        ------
1977 EXPECTED SUPPLY             12120           2296               422         13905
--------------------------------------------------------------------------------------
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                                ANALYSIS AND PLANNING
          FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                          RESOURCES CALCULATION SOFTWARE
                           ANNUAL HISTORIC NET ATTRITION
                              REPORT  5 (CONTINUED)
------------------------------------------------------------------------------------------

                                            REGISTERED NURSES
                                ----------------------------------------------    LICENSED
                                DIPLOMA AND                          HIGHER        PRACTICAL
                                ASSOCIATE       BACCALAUREATE        DEGREE        NURSES
------------------------------------------------------------------------------------------
1977 INITIAL SUPPLY                 12120            2296              422           13905
1977 GRADUATIONS
      BASIC                           932             555                0             992
      POST-RN BACC. (B6)*             -24              28                0               0
      POST-RN HIGHER DEG. (E1)**        0             -54               67               0
                                   ------          ------           ------          ------
1978 EXPECTED SUPPLY                13028            2825              489           14897
------------------------------------------------------------------------------------------
1978 INITIAL SUPPLY                 13028            2825              489           14897
1978 GRADUATIONS
      BASIC                          1003             570                0            1108
      POST-RN BACC. (B6)*             -40              47                0               0
      POST-RN HIGHER DEG. (B1)**        0             -64               80               0
                                   ------          ------           ------          ------
1979 EXPECTED SUPPLY                13991            3378              569           16005
------------------------------------------------------------------------------------------
1979 ACTUAL SUPPLY                  13060            3761              680           14957
                                   ------          ------           ------          ------

                                   ------          ------           ------          ------
EXPECTED LESS ACTUAL SUPPLY           931            -383             -111            1048

TOTAL ADDITIONS
BY GRADUATIONS                       5687            2346              381            6710
------------------------------------------------------------------------------------------
NET ATTRITION RATE
PERCENTAGES  ***                 (   1.31)       (  -2.85)        (  -4.55)        (   1.30)
------------------------------------------------------------------------------------------

NOTES:
    ( )   NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
    ***   WHEN THE NET ATTRITION RATE IS A NEGATIVE NUMBER
          THEN THE NET ATTRITION ADJUSTMENT WILL BE ADDED TO THE
          ESTIMATED TOTAL SUPPLY.
      *   PERCENTAGE OF POST-RN BACCALAUREATE DEGREE
          HOLDERS TO BE SUBTRACTED FROM THE DIPLOMA AND ASSOCIATE
          DEGREE HOLDERS TO PREVENT DOUBLE COUNTING.
     **   PERCENTAGE OF POST-RN HIGHER DEGREE
          HOLDERS TO BE SUBTRACTED FROM THE REGISTERED
          BACCALAUREATE NURSES TO PREVENT DOUBLE COUNTING.
```

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                                    ANALYSIS AND PLANNING
                 FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES
                              RESOURCES CALCULATION SOFTWARE
                           ANNUAL HISTORIC NET ATTRITION SUMMARY
                                         REPORT 10
------------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1984
------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------

        DIPLOMA AND ASSOCIATE                                HIGHER DEGREE

               INITIAL SUPPLY       8304                         INITIAL SUPPLY       188
               FINAL SUPPLY        13060                         FINAL SUPPLY         680
               GRADUATIONS          5687                         GRADUATIONS          381
               LOSSES                931                         LOSSES              -111

            *** NET ATTRITION                                *** NET ATTRITION
               PERCENTAGE          (     1.308 )                PERCENTAGE          (    -4.549 )

        BACCALAUREATE                                 LICENSED PRACTICAL NURSES

               INITIAL SUPPLY       1032                         INITIAL SUPPLY      9295
               FINAL SUPPLY         3761                         FINAL SUPPLY       14957
               GRADUATIONS          2346                         GRADUATIONS         6710
               LOSSES               -383                         LOSSES              1048

            *** NET ATTRITION                                *** NET ATTRITION
               PERCENTAGE          (    -2.848 )                PERCENTAGE          (     1.302 )

------------------------------------------------------------------------------------------

                                1 - (FINAL SUPPLY / INITIAL SUPPLY)*EXP*(1 / (FINAL YEAR - INITIAL YEAR))
NET ATTRITION FORMULA   =     ----------------------------------------------------------------------
                                                   1 - (GRADUATIONS / (LOSSES))

NET ATTRITION RATE -- A PERCENTAGE THAT IS THE ANNUAL HISTORIC NET ATTRITION RATE.
                      THIS RATE IS CALCULATED OVER A SPECIFIED RANGE OF YEARS USING HISTORIC DATA.
INITIAL YEAR -- THE YEAR USED TO BEGIN THE CALCULATION OF THE NET ATTRITION RATE (NAR).
FINAL YEAR -- LAST YEAR IN THE RANGE OF YEARS FOR WHICH THE NAR CALCULATION IS BASED.
INITIAL SUPPLY -- THE ACTUAL NUMBER OF NURSES AVAILABLE IN THE INITIAL YEAR.
FINAL SUPPLY -- THE ACTUAL NUMBER OF NURSES AVAILABLE IN THE FINAL YEAR.
GRADUATIONS -- THE ADDITIONAL NURSES MADE AVAILABLE BY GRADUATIONS WITHIN THE STATES.
LOSSES -- THE DIFFERENCE BETWEEN THE NUMBER OF NURSES CALCULATED TO BE AVAILABLE IN THE FINAL YEAR,
       AND THE ACTUAL SUPPLY IN THE FINAL YEAR OF THE CALCULATION.

NOTES:
    ( )  NUMBERS WITHIN PARENTHESIS ARE PERCENTAGES.
```

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                                    ANALYSIS AND PLANNING
                  FOR IMPROVED DISTRIBUTION OF NURSING PERSONNEL AND SERVICES                  PAGE  1
                                RESOURCES CALCULATION SOFTWARE
                                PROJECTION OF AVAILABLE NURSES
                                          REPORT 11
-----------------------------------------------------------------------------------------------------

YEARS  1972 -- 1979
REGION -- ALABAMA
2ND RN AND LPN
    PROJ FOR 1984
                                        REGISTERED NURSES
                         ----------------------------------------------                LICENSED
                         DIPLOMA AND                                HIGHER             PRACTICAL
                         ASSOCIATE          BACCALAUREATE           DEGREE             NURSES
-----------------------------------------------------------------------------------------------------
NET ATTRITION RATES  ***      (    1.31)          (   -2.85)        (   -4.55)         (    1.30)
-----------------------------------------------------------------------------------------------------
1979 AVAILABLE SUPPLY         13060               3761                680              14957
1979 GRADUATIONS
      BASIC                     957                637                  0               1120
      POST-RN BACC. (86)*       -33                 39                  0                  0
      POST-RN HIGHER DEG. (81)**  0                -89                111                  0
                             ------             ------             ------             ------
1980 ESTIMATED TOTAL SUPPLY   13984               4348                791              16077
1980 NET ATTRITION ADJUSTMENT  -183                123                 35               -209
                             ------             ------             ------             ------
1980 AVAILABLE SUPPLY         13801               4471                826              15868
-----------------------------------------------------------------------------------------------------
1980 AVAILABLE SUPPLY         13801               4471                826              15868
1980 GRADUATIONS
      BASIC                     946                640                  0               1130
      POST-RN BACC. (86)*       -33                 39                  0                  0
      POST-RN HIGHER DEG. (81)**  0               -105                130                  0
                             ------             ------             ------             ------
1981 ESTIMATED TOTAL SUPPLY   14714               5045                956              16998
1981 NET ATTRITION ADJUSTMENT  -192                143                 42               -221
                             ------             ------             ------             ------
1981 AVAILABLE SUPPLY         14522               5188                998              16777
-----------------------------------------------------------------------------------------------------
1981 AVAILABLE SUPPLY         14522               5188                998              16777
1981 GRADUATIONS
      BASIC                     966                756                  0               1147
      POST-RN BACC. (86)*       -42                 49                  0                  0
      POST-RN HIGHER DEG. (81)**  0               -119                147                  0
                             ------             ------             ------             ------
1982 ESTIMATED TOTAL SUPPLY   15446               5874               1145              17924
1982 NET ATTRITION ADJUSTMENT  -202                166                 51               -233
                             ------             ------             ------             ------
1982 AVAILABLE SUPPLY         15244               6040               1196              17691
-----------------------------------------------------------------------------------------------------
```

## TABLE 8

## TOTAL RESOURCES PROJECTIONS FOR 1984 ADJUSTED INTO FTE FIGURES

| Ed. Level | Projection | FTE Conversion | | | | | | Total FTE |
|---|---|---|---|---|---|---|---|---|
| | | % F-T x Proj. = | # FTE | % P-T x Proj. = | # P-T | # P-T ÷ 2 = | # FTE | |
| LPNs | 19,759 | 62.125% x 19,759 = | 12,275 | 16.625% x 19,759 = | 3,284 | 3,284 ÷ 2 = | 1,642 | 13,917 |
| Dipl/Assoc | 16,892 | 69.100% x 16,892 = | 11,672 | 15.200% x 16,892 = | 2,568 | 2,568 ÷ 2 = | 1,284 | 12,956 |
| Bacc | 7,831 | 69.350% x 7,831 = | 5,431 | 13.050% x 7,831 = | 1,022 | 1,022 ÷ 2 = | 511 | 5,942 |
| Higher Degree | 1,600 | 82.125% x 1,600 = | 1,314 | 7.125% x 1,600 = | 114 | 114 ÷ 2 = | 57 | 1,371 |
| Total RNs | 26,323 | | | | | | | 20,269 |

F-T: Full-time
P-T: Part-time
FTE: Full-time Equivalent

# P-T ÷ 2: Assumption was made that all P-T nurses would work half-time; thus, the number of part-tim nurses was divided by 2 to compute the FTE.

Note: Percentages for the adjustments were taken from 1979 actual figures according to the records of the Alabama Board of Nursing. Those nurses not working part-time or full-time are retired, going to school, or working in non-nursing fields.

## TABLE 9

## RANGE CALCULATION FOR RESOURCES PROJECTION

| Ed. Level | Projection | Projection + 3% | Projection - 3% | Range |
|---|---|---|---|---|
| Dipl/Assoc | 12,956 | 13,345 | 12,567 | 12,567 - 13,345 |
| BSN | 5,942 | 6,120 | 5,764 | 5,764 - 6,120 |
| Higher Degree | 1,371 | 1,412 | 1,330 | 1,330 - 1,412 |
| Total RNs | 20,269 | 20,877 | 19,661 | 19,661 - 20,877 |
| LPNs | 13,917 | 14,335 | 13,499 | 13,499 - 14,335 |

## APPENDIX K

## ASSUMPTIONS AND RATIONALES FOR THE RESOURCES SECTION OF THE WICHE MODEL

### Definitions

Practical Nursing Program - Prepares student to sit for the licensed practical nurse (LPN) exam. This program is offered in a number of institutional settings where duration is approximately one year. Includes Birmingham Metro Area Skills Center, Cobb Memorial Hospital, DeKalb County General Hospital, St. Jude School of Practical Nursing, Southern Vocational College, H.M. Ayers State Technical College, Bessemer State Technical College, John C. Calhoun State Community College, J.F. Drake State Technical College, Gadsden State Technical Institute, Richmond P. Hobson State Technical College, Douglas MacArthur State Technical College, Muscle Shoals State Technical College, Northwest Alabama State Technical College, N. F. Nunnelley State Technical College, Opelika State Technical College, Ed Reid State Technical College, Shelton State Community College, Southwest State Technical College, Chauncey Sparks State Technical College, H. Councill Trenholm State Technical College, Walker State Technical College, Wallace State Community College/Dothan, Wallace State Community College/Hanceville, and Wallace State Community College/Selma.

Diploma Nursing Program - Prepares student to sit for registered nurse (RN) licensing exam. This is the oldest form of basic nursing education. Diploma programs are approximately three years in length and place a heavy emphasis on clinical experience. Includes Holy Name of Jesus Hospital, Providence Hospital, Sylacauga Hospital, and St. Vincent Hospital.

Associate Degree Nursing Program - Prepares student to sit for the registered nurse (RN) licensing exam in approximately two years. This program is usually located in junior or community colleges, but may also be found in senior institutions. Includes Mobile College, Oakwood College, Samford University, Chattahoochee Valley State Community College, Gadsden State Junior College, Jefferson Davis State Junior College, Jefferson State Junior College, John C. Calhoun State Community College, Lawson State Community College, Livingston University, Northeast Alabama State Junior College, Northwest Alabama State Junior College, S.D. Bishop State Junior College, Southern Union State Junior College, Troy State University at Montgomery, Wallace State Community College/Dothan, Wallace State Community College/Hanceville, and Wallace State Community College/Selma.

Two-Year Professional Component Baccalaureate Program - Admits the student into the professional nursing program in the junior year. Includes Auburn University, Auburn University at Montgomery, Mobile College, University of Alabama in Huntsville, and Samford University.

Three-Year Professional Component Baccalaureate Program - Admits the student into the professional nursing program in the sophomore year.

Includes University of Alabama in Birmingham (beginning in 1979), University of Alabama in Tuscaloosa/Capstone College of Nursing, University of South Alabama, and Troy State University.

Four-Year Professional Component Baccalaureate Program - Admits the student into the professional nursing program in the freshman year. Includes Jacksonville State University/Lurleen B. Wallace School of Nursing, Tuskegee Institute, University of Alabama in Birmingham (prior to 1979), and University of North Alabama.

Post-RN Baccalaureate Program - Admits primarily RN students for pursuit of a BSN. Includes Samford University.

Higher Degree Programs - Offer the MSN and/or DSN. Includes University of Alabama in Birmingham and University of Alabama in Huntsville.

## Computing the Completion Percentage

In Worksheets A, B, C, and F, it was necessary to compute a completion percentage, or the percentage of students who could be expected to complete a program based on the original admissions. This percentage was based on past admissions and graduations. To make this computation, admission and graduation data were collected for 1976, 1977, 1978, and 1979 for all programs. The past admission figures were obtained from the Alabama Board of Nursing; each program then verified these figures and made projections for the future.

## Net Attrition Rate

The model uses the work force data on beginning and ending supply of nurses to compute a net attrition rate (NAR). This NAR is a percentage calculated on the basis of historical data which assesses the effect of all attrition factors during a specified time period on four categories of nursing. When the NAR is a negative percentage, the NAR adjustment is added to the estimated supply, and when the NAR is a positive percentage, the NAR adjustment is subtracted from the estimated supply.

All factors which influence whether or not a nurse is active in nursing are a part of the NAR. Among those factors are nurse inactivity, nurse migration, out-of-state migrations, license suspensions, license lapses, license revocations, and license failures.

The Committee used totals for the beginning and ending supply which had already been adjusted for inactivity and for out-of-state employment. Therefore, the ending number represents the projected number of nurses who will be working part-time or full-time in nursing in Alabama in 1984. The Committee made further adjustments to the four categories so that the final supply reflects the number of full-time equivalent nurses who can be expected in the work force in 1984.

Reports 9, 10, and 11 in the Resources Section show the computation of the net attrition rate in each category, as well as the application of the net attrition rate to future projections. The reader should refer to these reports for additional information.

To compute the net attrition rate, the following formula was used:

$$NA_t = \frac{1 - \left(\frac{S_{t+1}}{S_t}\right)^{\frac{1}{i}}}{1 - \left(\frac{G_t}{\text{Losses}}\right)}$$

Where:

$NA_t$ = Annual historical net attrition rate

Losses: The difference between the number of nursing personnel that could be expected at t+1, assuming no one leaves and that all graduates enter and remain in the labor force, and the number actually present at t+1.

$S_t$ = Actual number of nursing personnel at t

$S_{t+1}$ = Actual number of nursing personnel at t+1

$i$ = Number of years between actual inventories

$G_t$ = Number of in-state graduations between t and t+1

The elements of the NAR formula were solved as follows:

$S_t$: Actual number of nursing personnel at t

The Committee chose 1972 for the beginning year. Figures were supplied by A Plan of Action for Selected Health Manpower, published by the State Department of Public Health in 1972. These figures include only those nurses who were active and practicing in Alabama in 1972.

| Dipl/Assoc | BSN | Higher Degree | LPN |
|---|---|---|---|
| 3,304 | 1,032 | 188 | 9,295 |

$S_{t+1}$: Actual number of nursing personnel at t+1

Using seven years between inventories, the Committee selected 1979 as t+1. Figures were taken from the 1979 license renewal forms submitted to the Alabama Board of Nursing. These figures include only those nurses who were active and practicing in Alabama in 1979.

| Dipl/Assoc | BSN | Higher Degree | LPN |
|---|---|---|---|
| 13,060 | 3,761 | 680 | 13,939 |

i: Number of years between actual inventories

Six years were allowed between inventories.

$G_t$: Number of in-state graduations between t and t+1.

The number of graduates for 1972-1977 was taken from a survey conducted by the Commission staff. Graduates for 1978 and 1979 were taken from records of the Alabama Board of Nursing.

## Computations for Reports 1-11

### Report 1 - Practical

Completion Percentage: .633

| Grad Year | Adm Year | Admissions | Graduations |
|---|---|---|---|
| 1976 | 1976 | 1,510 | 1,062 |
| 1977 | 1977 | 1,680 | 992 |
| 1978 | 1978 | 1,773 | 1,108 |
| 1979 | 1979 | 1,793 | 1,120 |

1,510 + 1,680 + 1,773 + 1,793 = 6,756 Total Admissions

1,062 + 992 + 1,108 + 1,120 = 4,282 Total Graduations

4,282 ÷ 6,756 = .633 Completion Percentage

The completion percentage of .633 was then used to calculate the projected graduations.

| Grad Year | Adm Year | Admissions | X | Completion % | = | Graduations |
|---|---|---|---|---|---|---|
| 1980 | 1980 | 1,785 | | .633 | | 1,130 |
| 1981 | 1981 | 1,812 | | .633 | | 1,147 |
| 1982 | 1982 | 1,817 | | .633 | | 1,150 |
| 1983 | 1983 | 1,838 | | .633 | | 1,163 |

### Report 2 - Diploma

Completion Percentage: .713

| Grad Year | Adm Year | Admissions | Graduations |
|---|---|---|---|
| 1976 | 1974 | 280 | 237 |
| 1977 | 1975 | 274 | 158 |
| 1978 | 1976 | 194 | 161 |
| 1979 | 1977 | 188 | 112 |

280 + 274 + 194 + 188 = 936 Total Admissions

237 + 158 + 161 + 112 = 668 Total Graduations

668 ÷ 936 = .713 Completion Percentage

The completion percentage of .713 was then used to calculate the projected graduations.

| Grad Year | Adm Year | Admissions | X | Completion % | = | Graduations |
|---|---|---|---|---|---|---|
| 1980 | 1978 | 167 | | .713 | | 119 |
| 1981 | 1979 | 180 | | .713 | | 128 |
| 1982 | 1980 | 185 | | .713 | | 132 |
| 1983 | 1981 | 190 | | .713 | | 135 |

## Report 3 - Associate

Completion Percentage: .560

| Grad Year | Adm Year | Admissions | Graduations |
|---|---|---|---|
| 1976 | 1975 | 1,171 | 673 |
| 1977 | 1976 | 1,408 | 774 |
| 1978 | 1977 | 1,414 | 842 |
| 1979 | 1978 | 1,596 | 845 |

1,171 + 1,408 + 1,414 + 1,596 = 5,589 Total Admissions

673 + 774 + 842 + 845 = 3,134 Total Graduations

3,134 ÷ 5,589 = .560 Completion Percentage

The completion percentage of .560 was then used to calculate the projected graduations.

| Grad Year | Adm Year | Admissions | X | Completion % | = | Graduations |
|---|---|---|---|---|---|---|
| 1980 | 1979 | 1,477 | | .560 | | 827 |
| 1981 | 1980 | 1,496 | | .560 | | 838 |
| 1982 | 1981 | 1,505 | | .560 | | 843 |
| 1983 | 1982 | 1,510 | | .560 | | 846 |

## Report 4 - 2-Yr Professional Component Baccalaureate

Programs Included: Auburn University, Auburn University at Montgomery, Mobile College, University of Alabama in Huntsville, Samford University

Completion Percentage: .767

| Grad Year | Adm Year | Admissions | Graduations |
|---|---|---|---|
| 1976 | 1975 | 109 | 78 |
| 1977 | 1976 | 118 | 102 |
| 1978 | 1977 | 131 | 94 |
| 1979 | 1978 | 124 | 96 |

109 + 118 + 131 + 124 = 482 Total Admissions

78 + 102 + 94 + 96 = 370 Total Graduations

370 ÷ 482 = .767 Completion Percentage

The completion percentage of .767 was then used to calculate the projected graduations.

| Grad Year | Adm Year | Admissions | X | Completion % | = | Graduations |
|---|---|---|---|---|---|---|
| 1980 | 1979 | 203 | | .767 | | 156 |
| 1981 | 1980 | 306 | | .767 | | 235 |
| 1982 | 1981 | 506 | | .767 | | 388 |
| 1983 | 1982 | 555 | | .767 | | 426 |

Report 5 - 3-Yr Professional Component Baccalaureate

Programs Included: University of Alabama in Birmingham (beginning in 1979), University of Alabama in Tuscaloosa/Capstone College of Nursing, University of South Alabama, and Troy State University.

Completion Percentage: .488

| Grad Year | Adm Year | Admissions | Graduations |
|---|---|---|---|
| 1976 | 1974 | 141 | 42 |
| 1977 | 1975 | 232 | 74 |
| 1978 | 1976 | 305 | 143 |
| 1979 | 1977 | 483 | 208 |

141 + 232 + 305 + 483 = 956

42 + 74 + 143 + 208 = 467

467 ÷ 956 = .488

The completion percentage of .488 was then used to calculate the projected graduations.

| Grad Year | Adm Year | Admissions | X | Completion % | = | Graduations |
|---|---|---|---|---|---|---|
| 1980 | 1978 | 307 | | .488 | | 150 |
| 1981 | 1979 | 483 | | .488 | | 236 |
| 1982 | 1980 | 659 | | .483 | | 322 |
| 1983 | 1981 | 739 | | .488 | | 361 |

## Report 6 - 4-yr Professional Component Baccalaureate

Programs Included: Jacksonville State University/Lurleen B. Wallace School of Nursing, Tuskegee Institute, University of Alabama in Birmingham (prior to 1979), and University of North Alabama.

Completion Percentage: .578

| Grad Year | Adm Year | Admissions | Graduations |
|---|---|---|---|
| 1976 | 1973 | 477 | 399 |
| 1977 | 1974 | 686 | 379 |
| 1978 | 1975 | 652 | 333 |
| 1979 | 1976 | 681 | 333 |

477 + 686 + 652 + 681 = 2,496 Total Admissions

399 + 379 + 333 + 333 = 1,444 Total Graduations

1,444 ÷ 2,496 = .578 Completion Percentage

The completion percentage of .578 was then used to calculate the projected graduations.

| Grad Year | Adm Year | Admissions | X | Completion % | = | Graduations |
|---|---|---|---|---|---|---|
| 1980 | 1977 | 578 | | .578 | | 334 |
| 1981 | 1978 | 493 | | .578 | | 285 |
| 1982 | 1979 | 215 | | .578 | | 124 |
| 1983 | 1980 | 245 | | .578 | | 142 |

Note: Decrease in admissions and graduations due to UAB moving to 3-yr professional component baccalaureate category in 1979.

## Report 7 - Post-RN Baccalaureate

Program Included: Samford University

Although all baccalaureate nursing programs anticipate an increase in enrollment of RN students, the actual number or percentage is difficult to predict. Therefore, the post-RN baccalaureate category was reserved for those programs which are specifically designed for the RN student. It is recognized, however, that the actual number of post-RN baccalaureate graduates will probably be larger than is reflected in the graduation projections.

To predict the number of post-RN baccalaureate graduates from Samford in the future, it was necessary to base the projections on admissions to the program, assuming that 100 percent of those admitted would graduate the following year. The Committee recognized the weaknesses inherent in this approach, but could not determine a better methodology. Again, approximately one percent of the baccalaureate graduates are graduates of the two-year baccalaureate program, not the post-RN baccalaureate program. The computation of projected graduates is given:

| Grad Year | Adm Year | Admissions - | 1%2-Yr BS Grad = | 99%/Post-RN Grad |
|---|---|---|---|---|
| 1980 | 1979 | 40 | 1 | 39 |
| 1981 | 1980 | 50 | 1 | 49 |
| 1982 | 1981 | 55 | 1 | 54 |
| 1983 | 1982 | 60 | 1 | 59 |

## Report 8 - Post-RN Higher Degree

Programs Included: University of Alabama in Birmingham/MSN, University of Alabama in Huntsville/MSN, University of Alabama in Birmingham/DSN.

Projected graduates for the included programs were supplied by the deans.

| Year | UAB/MSN | UAH/MSN | UAB/DSN | Total |
|---|---|---|---|---|
| 1980 | 105 | 15 | 10 | 130 |
| 1981 | 115 | 20 | 12 | 147 |
| 1982 | 125 | 25 | 15 | 165 |
| 1983 | 135 | 25 | 18 | 178 |

## Report 9 - Annual Historic Net Attrition

This report is provided for information purposes. It traces the historic calculation of the net attrition rate from 1972-1979.

## Report 10 - Annual Historic Net Attrition Summary

The 1972 figures were supplied by A Plan of Action for Selected Health Manpower, published by the State Department of Public Health in 1972. These figures include only those nurses who were active and practicing in Alabama in 1972. The 1979 numbers were taken from the RN and LPN records of the Alabama Board of Nursing. These figures included only those RNs and LPNs who were active and practicing in Alabama in 1979.

## Report 11 - Projection of Available Nurses

In this report, a mechanism was provided to adjust the graduations of post-RN baccalaureate and higher degree nurses who remain in the work force while pursuing the higher degree. Nationally, 86 percent of the students working on a post-RN baccalaureate degree continue to work while pursuing the BSN, and 81 percent of the students working on a post-RN higher degree also continue to work while pursuing the higher degree. When these RNs graduate, they should be subtracted from the number of graduates added to the work force because they do not contribute to an increased available supply.

The model allows this adjustment to be made by using the 81 percent and 86 percent or by substituting state specific data. Since these statistics are not available for Alabama, the Committee decided to use the national percentages. Therefore, the adjustment was made to prevent "double-counting" of nurses who remain in the work force while pursuing a higher degree.

# APPENDIX L

## CRITERIA FOR EVALUATING A NURSING PROGRAM
## ALABAMA BOARD OF NURSING[63]

7.1 Organization and Administration

a. The organization and administration of the nursing program shall be consistent with those of other programs in the institution.

b. The institution shall be accredited by the appropriate accrediting agency.

c. There shall be organizational charts showing the relationship and appropriate lines of communication of the nursing program to the board of control, to other departments in the institution, and to other institutions and agencies used by the nursing program.

d. The nursing program shall be an actively participating constituent of the institution.

e. The institution shall provide for adequate resources and facilities for the nursing program.

  (1) There should be a budget prepared showing financial support which assures stable resources adequate for the program.

  (2) There shall be current contracts or agreements with appropriately accredited institutions or agencies used by the program in nursing for four or more weeks which clearly define the responsbilities of the school and the institution or agency and which ensure that the faculty members have full control of the students throughout each course. Approval of the Board must be attained prior to use of such facilities.

  (3) There shall be faculty members adequate in number and type to meet the educational needs of the program.

  (4) The faculty shall be employed by and responsible to the institution.

  (5) The administration shall delegate to the nurse director the responsiblity for developing and administering the nursing program.

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[63] Alabama Board of Nursing Rules and Regulations, 1977, (Montgomery, AL: Alabama Board of Nursing, 1977), pp. 13-21.

(6) There shall be adequate clerical services to support the program.

7.2 Philosophy and Objectives

a. The nursing program shall have in writing a clearly defined statement of philosophy that is consistent with the philosophy of the institution. The philosophy shall include beliefs of the faculty concerning what nursing is, what education is, how students learn, and who is responsible for the direction of learning experiences.

b. The nursing program shall have in writing clearly stated realistic objectives, consistent with the philosophy, and shall give consideration to the development of the student as a practitioner, a person and a citizen.

c. The philosophy and objectives shall be used by the faculty in planning, developing, implementing and evaluating the total program.

7.3 Faculty

a. Qualifications

(1) Each nurse member of the faculty shall:

(a) Hold a current license to practice as a Licensed Professional (Registered) Nurse in the state of Alabama.

(b) Have successful experience as a Registered Nurse.

(c) Show evidence of developing personal and professional competency through continued education, membership and participation in professional organizations and community activities, and participation in inservice education in nursing.

(2) In programs preparing for registered nurse licensure, each faculty member shall have academic preparation and experience as follows:

(a) The director of the program shall have at least a master's degree, preferably in nursing, with preparation and experience in the areas of nursing education and administration.

(b) The coordinator of levels or specific clinical areas shall have at least a master's degree, preferably in nursing, with additional preparation and/or experience in the area of function.

(c) The nurse faculty members shall have at least a baccalaureate degree, preferably in nursing, with additional preparation and/or experience in the area of function.

(d) A clinical associate, if appointed, shall function as an assistant instructor under the direct guidance of a faculty member fully qualified in the specific clinical area.

(e) All non-nurse faculty members shall meet the requirements of the institution in education and experience in their field of specialization.

(3) In programs preparing for practical nurse licensure, each faculty member shall have academic preparation and experience as follows:

(a) The director or coordinator of the program shall have at least a baccalaureate degree, preferably in nursing, with three (3) or more years of successful experience as a licensed professional (registered) nurse, at least one (1) year of which shall have been in nursing education.

(b) The nurse faculty members shall have a minimum of a baccalaureate degree, preferably in nursing.

(c) A clinical associate, if appointed, shall function as an assistant instructor under the direct guidance of a faculty member qualified in the specific clinical area.

(d) All non-nurse faculty members shall meet the requirements of the institution in education and experience in their field of specialization.

(e) A director or other faculty members who do not meet the above qualifications on the date these rules become effective will not be affected by the provisions of (2) or (3) while they remain in their present employment.

b. Number

(1) The number of faculty shall be sufficient to develop and implement the program in relation to the stated objectives and such number shall be reasonably dependent upon the student enrollment, curriculum plan, preparation of faculty, clinical facilities utilized, and total responsibilities of the faculty.

(2) No faculty member should be responsible for more than ten students in a clinical area at any given time.

c. Functions

(1) The principle functions of the faculty shall be to:

(a) Develop the philosophy and objectives of the program.

(b) Construct, implement, teach, evaluate and revise the curriculum.

(c) Develop criteria for the selection, promotion and graduation of nursing students within the framework of the institution.

(d) Evaluate student achievement on the basis of established criteria, recommending successful candidates for degree, diploma and other forms of recognition.

(e) Participate in academic advisement of students.

(f) Assess educational resources for the program.

(g) Participate in appropriate activities of the institution.

d. Organization

(1) The governing structure shall provide for full participation of the nursing faculty.

(2) Regularly scheduled meetings shall be held by the nursing faculty, and minutes of the meetings shall be on file in the program office.

(3) Provision should be made for student participation, as appropriate.

e. Personnel Policies

(1) There shall be written personnel policies which shall include selection, appointment and promotion, teaching load and professional development, and a statement of expectation for each position.

(2) The teaching load shall be such that faculty members have a reasonable amount of time for preparation for classes and laboratory, instruction of students, guidance of students, program planning, evaluation and revision, participation in committee activities; and attendance at and participation in professional meetings, institutes, workshops and continuing education courses.

7.4 Students

a. There shall be written policies developed by the faculty for selection, admission, promotion and graduation which shall be in accordance with the philosophy and objectives of the program.

b. The requirements for admission shall not be less than the requirements of the law which would permit the applicant to be admitted to the appropriate licensing examination after completion of the prescribed curriculum.

c. There shall be a written policy regarding readmission of students and admission by transfer that is consistent with the policies of the institution.

d. Schools admitting students with advanced standing shall have written criteria for granting course credit.

e. Approval or accreditation by state, regional and national accrediting agencies shall be clearly stated in published bulletins or catalogues to provide prospective students with full information regarding constraints that could effect their upward mobility in education.

f. Policies shall be available that provide for student welfare as related to health, counseling and guidance, financial aid, and, if offered, housing.

7.5 Educational Facilities

a. The institution offering a program in nursing shall be accredited by appropriate state, regional or national accrediting agencies.

b. Physical facilities provided for the program shall be adequate in number, size and type to ensure the most conducive environment for teaching and learning.

  (1) Office space for the director, faculty and staff shall be provided by the institution.

  (2) Space for storage of equipment, records, files, instructional materials and supplies shall be provided by the institution.

  (3) Adequate classroom and laboratory space shall be provided by the institution.

c. Clinical facilities shall be selected to provide learning experiences sufficient to achieve the objectives of the program.

  (1) Hospitals shall be accredited by the Joint Commission on Accreditation of Hospitals, and other facilities used shall be licensed or approved by appropriate authorities.

(2) Clinical facilities shall be approved by the Board prior to assignment of students. Consideration shall be given to the philosophy and objectives of care in the facility, environment conducive to learning, learning experiences available, and quality and quantity of professional and supportive staff.

d. There shall be library resources of sufficient number, pertinency, recency, and level of content to support the total program.

7.6 Curriculum

a. The faculty shall develop, implement, control and evaluate the curriculum within the framework of the philosophy, purposes and objectives of the nursing program and policies of the institution.

b. There shall be curriculum objectives that identify the behavioral expectations for the student who completes the program and which shall be used to develop, organize, implement and evaluate the curriculum, and to identify objectives for levels of progression and for individual courses.

c. The development of the curriculum shall include:

(1) Statement of the rationale which is the basis for organization of nursing content.

(2) Selection of courses for basic content supportive to the nursing major, and of content for courses in the science and practice of nursing.

In programs preparing for registered nurse licensure, content shall include:

(a) Biological, physical, behavioral and related sciences supportive to the nursing major.

(b) Theory and concurrent practice in medical, surgical, obstetric, pediatric, and psychiatric nursing with a planned orientation to community health in associate degree and diploma programs and an identified component in baccalaureate programs. Clinical experiences shall be provided in the care of persons of all age groups, in the preventive aspects of nursing, care during acute and chronic illness, and rehabilitative care.

(c) History and trends of nursing, and legal, ethical and professional responsibilities.

In programs preparing for practical nurse licensure the curriculum shall be no less than one calendar year in length and content shall include:

(a) Basic courses in body structure and function, microbiology, nutrition, and mental health concepts.

(b) Theory and practice in medical, surgical, obstetric, and pediatric nursing. Clinical experiences shall be provided in the care of persons of all age groups with relatively stable nursing requirements and in assisting the registered nurse in the care of persons with complex nursing problems.

(c) History and trends of nursing, and legal, ethical and vocational responsibilities.

(3) Selection of facilities and resources needed for implementation of the courses.

(4) Involvement of nursing and other faculty and resource personnel.

d. The implementation of the curriculum shall include:

(1) Development of outlines that identify all substantive aspects, methodology, and placement of each course.

(2) Utilization of a variety of teaching methods.

(3) Development and maintenance of an environment consistent with the philosophy and purposes of the program.

(4) Provision for individual differences among students.

e. There shall be an organizational plan of the curriculum which shall provide for time periods (terms, semesters, quarters) and identified sequence of courses.

f. Evaluation of the curriculum shall include a plan for systematic assessment of student achievement and implementation of curriculum.

7.7 Evaluation

a. The faculty shall continually evaluate all aspects of the program in relation to its objectives.

b. The faculty shall develop a plan for the measurement of student achievement at each stage of progression, in accordance with the policy of the institution.

c. The students should be given an opportunity to participate in the evaluation of their own progress and to evaluate the effectiveness of courses and the curriculum.

d. Systematically planned studies of graduates and of the students who withdraw from the program should be made and used for the purpose of evaluating the extent to which the objectives of the program are being realized.

7.8 Records

a. Student records shall be maintained which include admission and health data, evidence of high school graduation or equivalency, and a current record of the student's achievement. Permanent records shall include the terminal evaluation and final transcipt.

b. Faculty records shall include application, job description, terms of employment and advancement, educational preparation and participation in professional and educational activities.

c. Program records shall include minutes of meetings of the faculty organization, curriculum materials, correspondence, survey visit reports, operational policies, fiscal records, and other reports and records related to the operation of the school.

d. School bulletins or catalogues shall be up-to-date and shall give an accurate description of the program.

7.9 Reports to the Board

a. A faculty qualification record shall be submitted on a form provided by the Board for each faculty member upon their employment in the nursing program.

b. Each program shall submit a quarterly report at the end of each quarter of the school year, according to the guides and forms provided by the Board office.

c. A report of admissions shall be submitted within two weeks after the date of admission of each class, according to guides and forms provided by the Board. A list of students admitted by transfer or readmission at irregular intervals shall be submitted to the Board at time of their admission.

d. An annual report shall be submitted to the Board prior to February 1 of each year according to guides or forms provided by the Board.

7.10 Program Changes

a. The Board shall be notified in writing of administrative changes relating to and affecting the program in nursing.

b. The Board shall be notified in writing and shall be requested to approve major changes in the program such as:

   (1) Changes in objectives which alter the present curriculum.

   (2) Increase or decrease in the length of the program.

   (3) Changes in the clinical facilities.

   Twelve (12) copies of the proposed changes with rationale shall be submitted to the Board office at least two (2) weeks prior to the Board meeting.

c. The school is responsible for revising and updating curriculum materials. Copies of any revised materials shall be submitted to the Board.

# APPENDIX M

## EXISTING PROGRAM REVIEW CRITERIA AND DATA REQUIREMENTS
## ALABAMA COMMISSION ON HIGHER EDUCATION

I. PROGRAM QUALITY: Criteria of program quality includes curriculum and instruction, faculty, students and resources

A. Curriculum and Instruction: Evaluation will focus on program objectives; scope and content of curriculum; effectiveness of delivery; reflection of current trends in the fields; responsiveness to emerging needs.

Data Requested:

1. Submit a statement of program goals and objectives. Include changes in program objectives within recent years and anticipated changes for the future.
2. Provide a brief general description of the program including subfields of study; special emphases and unique resources.
3. Requirements for completing program, including major and minor.
4. Provide a current list of all departmental graduate courses for the program. Include course prefix, number, title and description.
5. Provide a sample program of study (curriculum) that is representative of each area of emphasis. Include both departmental and non-departmental courses.
6. Describe any curricular or instructional strengths and/or unique features of the program.
7. Describe any curricular or instructional weaknesses/deficiencies. Include plans and timetable for elimination.
8. Describe curricular or instructional changes planned for the program which would affect enrollment, staffing or costs.
9. If accreditation has been attained, provide name of accrediting agency, date accredited and periodicity of accreditation. If not accredited, outline plans, if any, for attaining accreditation. (Accreditation reports and supplemental material should be available for examination during the on-site visit. It is not necessary to submit this material.)

10. Course syllabi for current offerings should be available for examination during the on-site visit. (It is not necessary to submit this material.)

B. Faculty: Evaluation will focus on qualifications; adequacy; stability; involvement in teaching, research and public service.

Data Requested:

1. Provide the number of actual (filled) and budgeted faculty positions for academic years 1977-78; 1978-79; 1979-80; and estimated number of budgeted faculty positions for 1980-81.

2. Provide a complete vita of each faculty member directly participating in the program.

3. Provide a summary of each departmental faculty member who is directly participating in the program. This summary should include
   a. Name and present rank.
   b. Highest degree, field of study and granting institution.
   c. Teaching load for each term (quarter/semester) for the past three years. Include: Courses taught by term; class enrollment and total credit hours produced for each course; number of assignments to doctoral and master's committees; supervision of thesis or dissertation.

4. Indicate the salaries of faculty members who are directly participating in the program. The listing should be by rank without identifying individual faculty members. If the salary is for 11/12 month period rather than 9/10 months, this should be indicated by a footnote.

5. Adjunct, support, or advisory faculty: List faculty, including those in other than the sponsoring department, who are involved in supporting or advisory roles. Include: name; rank; department; highest degree earned; granting institution; major and subfields of concentration; employment status with institutions (full-time or part-time).

6. Special competencies of existing faculty: Indicate areas of specialized competence as demonstrated by research or prior experience. What strengths or specialties not possessed by current faculty would be desirable to improve the program?

7. Relate the number and percent by rank of faculty participating in the program that have tenure. What is the departmental policy for granting tenure? How is teaching effectiveness measured and weighted in granting tenure? What are the department's policies on granting sabbaticals? Give the number of sabbaticals and length of time granted over the past five years.

8. Give the total number of faculty directly participating in the program for each of the last three years and projected number for the next five years. Give the number of faculty additions for each of the past five years.

9. Provide the number of current support staff by position titles that directly support the program.

C. Students: Evaluation will focus on admission requirements; student achievement; student retention; student follow-up; student assistance.

Data Requested:

1. Describe admission requirements for institution and program.

2. Describe any criteria used in addition to the admission requirements which impact on the selection process.

3. For each of the past three years give 1) the total number of applicants to the program; 2) the number of applicants meeting minimum admission standards of the institution and program; and 3) the number accepted into the program.

4. For each of the last three years, list student GRE scores and undergraduate or upper division GPA. If a formula is used, this score should also be provided. Do not identify individual students.

5. Enrollment statistics:
   a. Program enrollment over past three years by race, sex, national origin.
   b. What enrollment capacity does the program have to absorb additional students without a significant added cost?
   c. Provide information on anticipated enrollment changes over the next three years. Give an explanation of estimates of growth or decline.

6. Provide the number of degrees conferred over past five years by race, sex, national origin. Use HEGIS year July 1 - June 30.

7. What has been the attrition record of candidates for degrees during the last three years? What has been the average and range of times for candidates to complete degrees in the last three years?

8. What advisement and counseling service are provided for students with regard to future employment prospects and opportunities?

9. Describe any programs designed for students with special needs (admission, counseling, development).

10. Provide the number and amount of departmental stipends, fellowships, assistantships and scholarships for students for each of the past three years.

11. For each of the past five years provide name and current address of each graduate.

12. Doctoral and master's theses:
    a. List titles of all doctoral and master's completed and accepted during past five years. Divide according to subspecialty emphasis, if any. Identify supervisors and date of completion.
    b. List doctoral and master's theses in process, similarly divided, with tentative supervisors.

D. Resources: Evaluation will focus on equipment; facilities-space; support staff; library; community resources.

Data Requested:

1. List classrooms, laboratories, fixed and movable equipment currently available and used in the program.

2. Library
    a. Provide the approximate number of volumes, a list of the major reference works and recent acquisitions over the past three to five years which directly support the program.
    b. Provide a list of journals with publication dates which directly support the program.
    c. Provide an inventory of any special informational resources (slides, tapes, etc.) used in the program.
    d. What are special strengths in available library resources which directly relate to the program?
    e. If library or special resources are insufficient, what plans have been made to correct these deficiencies?
    f. Provide the departmental library budget for each of the last three years. Provide an estimated budget for 1980-81.

II. PROGRAM PRIORITY: Criteria of program includes an assessment of priority within the institution as well as external priority relationships to other institutions, both public and private, in-state and out-of-state.

A. Within the University: Evaluation will focus on allocation of resources and anticipated changes.

Data Requested:

1. Provide the department's operating budget for the past three years and an estimate for 1980-81.

2. Indicate the support and extent of involvment with undergraduate programs in this field, in related fields and including institutes and centers.

B. With Other In-State and Out-of-State Institutions: Evaluation will focus on relationships to other institutional programs and relationships to non-academic organizations and agencies.

Data Requested:

1. List institutions (public and private) offering the same or a similar program within a 100-mile radius.

2. Identify articulation arrangements with other institutions.

3. Summarize any arrangements with industry, government and other agencies outside of the academic community.

III. PROGRAM NEED: Criteria of program need includes employment opportunities as well as existing educational opportunities.

A. Employment Opportunities: Evaluation will focus on range and variety of employment opportunities; long-term manpower demands: local, state and national; employer satisfaction with graduates.

Data Requested:

1. Specify current and projected state, regional and national need for graduates. Cite any supporting studies or data.

2. Identify interest on the part of industry, research centers, other educational institutions, or state agencies. Indicate the nature of contacts made with these groups and the results of these contacts.

IV. ADDITIONAL COMMENTS AND SUGGESTIONS: Include any comments regarding aspects of the program not covered in the preceding sections which should be addressed.

## APPENDIX N

## STATE REVIEW OF NURSING PROGRAMS[64]

I wish to thank Kitty Collier for the opportunity of speaking with you about a statewide review of nursing programs. I believe this topic will be one of increasing interest to State Higher Education Agencies and to State Boards of Nursing because of the greater amount of state tax dollars that will need to go into nursing programs vis-a-vis the amount of the federal tax dollar that will be deducted from nurse education budgets.

The anticipated deficit of the federal dollar is regrettable because we continue to have manpower deficits largely due to the maldistribution of nurses by levels of educational preparation in addition to the advent of stop-gap measures to solve the problem. In the practice arena there is a return to proprietary incentives evidenced by manpower suppliers such as the Upjohn Company. Atlanta, as an example, has some 22 proprietary agencies who will send nurses to hospitals to relieve staffing shortages on an ad hoc basis. These nurses may not have been oriented to the hospital to which they are sent, certainly not to the specific units, and may know little if anything about the patients to whom they are assigned care. In the educational arena there remains that kneejerk tendency to open lower division programs in response to staffing difficulties in hopsitals. Hospitals continue to have high turnover rates in nursing staff due largely to nurse dissatisfaction and we continue to have gaps in health-illness services in rural and ghetto areas. Moreover, the monies required for the care of the poor challenges our usual sense of liberalism to the utmost. It is safe to say, therefore, that not only is the cost of health services rising alarmingly but also the cost of educating health care providers. Program reviews as a result are desirable not only from quality assurance point of view but also as a means of determining the proper use of the state's resources in health education. (Nursing programs constitute 12 percent of that health education dollar).

Let me begin by describing what I'd consider to be an ideal plan for program review and ask you to respond to it by raising questions and challenging my assumptions.

The first item on my agenda is a review or a determination of statewide health care needs or demands from both private and public sectors. To work effectively, evaluators will need this information to measure mission. This is not easy data to assemble but some group working with the evaluators needs to make a determination of the essential nursing services to be given to citizens of the state so that educational opportunities can be matched with the purposes to be accomplished. Some states have used the WICHE Model for determining this need, but this model like others is predicted on certain assumptions about health care delivery which you in your effort may wish to modify.

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[64] Pat Haase, "State Review of Nursing Programs," presentation made to the Advisory Committee on Nursing Education, Governors House Motel, Montgomery, AL, 18 July 1979.

As an example, in the Nursing Curriculum Project we have funded or suggested funding for three different projects. Each of these varies in methodology but an initial step in each is to divide the state on paper into geographical districts (sometimes HSA districts, or city-county planning, or multiple HSA districts) and examine just the needs of the particular sections thus created. In the Florida review, HSA districts were used showing population centers in the South but a predominace of educational opportunity in the North. In Georgia we are proposing the division of the state into five areas and inviting health care planners, providers and educators to meet in open hearings to evaluate demands and react to the ideas of others. In Arkansas we are proposing the placement of the statewide planning project in the Department of Health so that rural health care programs can be provided with the manpower they require (nurse practitioners and midwives) in addition to meeting the demand in the cities. In Kentucky, the Council on Public Higher Education is collecting a data base on which to predicate their planning by city-county governmental planning units.

In addition it is well to keep in mind that more than one health care discipline is involved in determining health care needs and that health care planning has become a full time occupation for many. Whether that job is steady employment remains to be seen, but many HSA districts have collected good data about prevalent health-illness problems and gaps in the provision of services. And it may be preferable to examine the differences in these needs by district, for the health-illness problems of Birmingham may differ markedly from the ones at Mobile.

Fitting nursing services into these plans for delivery of health care will require the use of several categories of providers. For community health promotion services, for monitoring services for the chronically ill on a semi-independent basis, for home visiting services, the nurse with at least a baccalaureate degree is required. The reason is simple: no other nurse is educationally prepared to provide these services. In hospitals the care of the acutely or critically ill also require the services of the nurse with at least a baccalaureate degree and the reason is the same. The associate degree nurse is prepared to provide nursing services for patients who are experiencing common and recurring illness problems: cholecystectomies, hysterectomies, chronic hypertension, chronic congestive heart failure, hernia repairs are a very few examples. Clinical specialists, nurse practitioners, university and junior college faculty, and organizational leaders are also required.

Concluding these efforts is a statewide plan for delivering nursing services that complements the efforts of health care planners, educators and providers working in related disciplines.

## Review Process

After the development of goals, the next step in a review process is to ask the colleges, schools, and programs being reviewed to provide the evaluation team with some documentation of their own particular educational efforts. This documentation does not take the form of a self-study but is sufficient to provide the reviewers with essential information about the program being reviewed. Five or six written pages may be sufficient. In addition, self studies for accrediting bodies should be made available to the reviewers at the time of the site visit or before if they request it. Course outlines, project materials, modules and other teaching materials should also be at hand for the reviewers at the time of the site visit or before if they request it.

Beginning the five or six pages especially prepared for the review process by the nursing program should be a statement on mission. The following questions should be addressed: Why was the program instituted? Has it fulfilled that demand? What is the present need? Do the administrative staff and faculty forsee the need for closure of the program or merger with another program? What are the development plans for the next five years? During the evaluative site visit the reviewers will be able to ascertain whether the area health care planners and providers concur with the stated mission and whether that mission is in line with contemporary practice in the field. To make this determination the evaluators should have opportunity during the site visit to verify the mission statement by talking with providers and planners and others who wish to have their voices heard. After such a hearing the reviewers should then be requested to prepare their reaction to the mission statement with respect to the faculty's document, the statewide plan, and their own perspectives concerning contemporary practice. During the Florida visits it was found that often these meetings were first visits between nursing faculty and health care planners.

Second, the reviewers should turn their attention to the faculty's qualifications for carrying out the mission and this cannot be done by evaluating curriculum vitae solely. The following questions should be addressed: What are the faculty's credentials with respect to not only educational preparation but also clinical abilities? What is the record of faculty success in regard to teaching students? What are the teachers' plan for continuing their own education in both a formal and an ad hoc manner? Is there a faculty in graduate programs contributing to the literature or researching questions which will promote the practice of nursing? If large numbers of faculty are not sufficiently prepared for their responsibilities, should some plan for their advanced education be addressed by the provision of courses from a state institution prepared to offer them? This portion of the review should be heavily weighted because programs with good faculty are successful and those with "less good" faculty are less successful.

Third, the reviewers should consider the students and their abilities to be successful in the educational program they have chosen. Questions to be answered are: Are the admission policies in line with the school's mission? Is there a remedial program available to students who are admitted without the essential precursor skills (mathematics, reading abilities, natural and social science background)? Are students satisfied with the instructional program: Is the counseling and advisement program adequate to the demands of the students? Admission and promotion policies often influence the student's success on the state licensing examination and should particularly be taken into consideration by programs having a high state board failure rate.

Another important aspect of the review process is the determination of the numbers of minority students enrolled both by individual program and as a collective number. In Florida, the number of licensed black practitioners was approximately 10 percent so that increased black recruitment and enrollment were particularly recommended. Strategies available to increase the numbers enrolled would necessarily vary with the nursing program and community involved, but the reviewers should be asked to provide suggestions for an appropriate methodology to accomplish these purposes.

Four, an examination by the reviewers should focus on the physical, financial and clinical resources available to the nursing program. Questions to be raised might be: Are the faculty salaries competitive? Are there sufficient monies for library holdings and audio-visual materials (both soft and hard ware)? Are there sufficient funds for consultants, a faculty development program, travel to regional and national meetings? Are such monies evenly divided among faculty and administrative personnel? Clinical resources are critical ones for any health program and the reviewers should be expected to spend sufficient time reviewing them carefully for adequacy. Relevant questions might be: Are there sufficient patients in hospitals and other health care agencies to provide good clinical learning experiences for students at a time that is optimal for both students and faculty? How many other schools and programs use the clinical agency for experience? If there is a great demand for such experience, is this factor a problem that will prevent good experience from being obtained by all? How far do faculty and students travel to obtain the proper clinical experience? In the Florida review it was found that one particular hospital was particularly saturated with students so that policy problems were presented for two different universities. The actual number of students per clinical specialty can be calculated.

Fifth, the reviewers should examine the curriculum to assure its match with the faculty and students. A mismatch is another major factor contributing to high failure rates on the state board examinations. It is axiomatic that sophisticated curricula are for learners preferring to deal with abstractions but in the nursing discipline for the last 20 years educators have preferred a conceptual approach to teaching. Curricular planning based on abstract concepts commands a high degree of faculty consensus and group work, and in the event of a high faculty turnover rate is is possible to encounter faculty in the review process who do not understand the curriculum they are teaching. As a consequence, neither do the students. The evaluators should carefully consider the curricular format: Does it match the faculty's abilities? Is it in the range of the students' abilities? Does it match the mission of the program? Are the teaching strategies appropriate to the learning styles of the students? (Parenthetically I might add my personal impressions of the work going on in the Florida junior colleges with respect to diagnosing learning styles. Teachers are able to identify three styles based on the Meyers-Briggs Personality Inventory: hantic-hands on, linear-high degree of structure, and global-desire to deal with abstractions. Teaching strategies are then designed to best instruct each of these types of learners). Curricular evaluation takes time but the hours are well spent in terms of pay-offs for the review process. Reviewers should be expected to make suggestions about ways that a better match between students, faculty, and curriculum can be made.

Sixth, the evaluators should be asked to determine the past measures of success for the nursing program. One of the areas to be evaluated in this respect is the performance of graduates on the state board test pool examination. If the performance is low the reviewers may recommend that the program be closed to admissions until such time as the problem of excessive failures be corrected. Pinpointing the problem should not be difficult for the reviewers, as the reasons for high failure rates are usually obvious: low admission standards, inadequately prepared faculty, limited financial or administrative support, an inappropriate curriculum, an overworked student group (i.e., students are working full-time and attending school full-time). State Boards of Nursing are now beginning to ask programs to close if the failure rate on the licensing examination exceeds 15 to 20 percent. Usually the program is placed on probation after a graduating class has failed beyond the percentage selected. If the percentage is not corrected within the next year or two, the program is closed. Such policies are in effect in Kentucky, Tennessee, Georgia, North Carolina, Florida and other states. The notification about probationary status should also include an assessment of the problem by the staff of the State Board and strategies to correct the problem.

Another measure of success is the record and reputation of the graduates who practice from one to five years after graduation. Are the graduates readily sought after by employers or do graduates have difficulty in their employment situation for more than six months? Follow-up studies of graduates are essential in this respect but often the reviewer can determine nuances of dissatification in talking with employers.

Accreditation by the National League for Nursing is commendable in addition to institutional accreditation by the Southern Association of Schools and Colleges or other pertinent accrediting bodies.

At this particular time in the history of nurse education it is essential that career mobility opportunities be in place and reviewers should be prepared to evaluate these opportunities in each program visited.

Service to the community, state, and nation by faculty should also be favorably considered.

In summary, it can be expected that outside reviewers (or Alabama citizens of great courage) should site visit all nursing programs in the state; and at the end of the visit and before leaving for their respective homes should write a report that speaks to mission and match to the statewide plan, faculty, students, curriculum, and past measures of success.

At the end of the visitation program the site visitors should be convened to write their recommendations to the sponsoring body: Department of Higher Education, Board of Regents, State Board of Nursing. As a group they may wish to recommend merger, closure, conversion, or the opening of programs. Recommendations should also be forthcoming in respect to strategies for strengtheing existing programs: improved admission criteria, change in curricular structure, improved clinical instruction, better teaching strategies, change in leadership abilities, faculty development programs, to mention a few examples.

# APPENDIX O

## RESOLUTION TO THE ALABAMA BOARD OF NURSING
## FROM THE
## ADVISORY COMMITTEE ON NURSING EDUCATION

### RESOLUTION

WHEREAS, the Advisory Committee on Nursing Education has requested a variety of information from the Alabama Board of Nursing over the last several years; and

WHEREAS, some of this information could not be provided because the Alabama Board of Nursing did not have this information for all licensed nursing professionals; and

WHEREAS, the license renewal forms for registered nurses and practical nurses request this information; and

WHEREAS, the completion of this renewal form is an invaluable source of information about nursing, both for statistical purposes and for long-range planning; and

WHEREAS, a large number of registered nurses and practical nurses fail to complete the entire form;

BE IT RESOLVED that the Advisory Committee on Nursing Education recommends that the Alabama Board of Nursing require registered nurses and practical nurses to complete the entire license renewal form as a condition of license renewal so that a reliable base of information can be established. In addition, the Advisory Committee on Nursing Education recommends that any renewal form which is not complete be returned to the individual and a renewed license withheld from the individual until the renewal form is complete in its entirety and returned to the Alabama Board of Nursing.

BE IT FURTHER RESOLVED that the Advisory Committee on Nursing Education recommends this process begin with the 1980 renewal forms by the inclusion of an explanatory note in the renewal form mailout;

BE IT ALSO FURTHER RESOLVED that all renewal forms printed and distributed after the 1980 renewal cycle indicate the requirement of completing the entire form in the instructions.

Diane Dransfield

Diane Dransfield
Chairperson
Advisory Committee on Nursing Education
of the Alabama Commission on Higher
Education

11-16-79

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